34345

National Library of Canada
Bibliothèque nationale du Canada

CANADIAN THESES ON MICROFICHE

THÈSES CANADIENNES SUR MICROFICHE

NAME OF AUTHOR/*NOM DE L'AUTEUR* WILLIAM GARNET GIBSON

TITLE OF THESIS/*TITRE DE LA THÈSE* SELF, LEADER and GROUP IN OUTDOOR EDUCATION: VALUE CHANGE THROUGH MANAGEMENT BY OBJECTIVES

UNIVERSITY/*UNIVERSITÉ* UNIVERSITY OF ALBERTA

DEGREE FOR WHICH THESIS WAS PRESENTED/ *GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE* DOCTOR OF PHILOSOPHY

YEAR THIS DEGREE CONFERRED/*ANNÉE D'OBTENTION DE CE GRADE* 1977

NAME OF SUPERVISOR/*NOM DU DIRECTEUR DE THÈSE* DR HARVEY SCOTT

Permission is hereby granted to the NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

L'autorisation est, par la présente, accordée à la BIBLIOTHÈQUE NATIONALE DU CANADA de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans l'autorisation écrite de l'auteur.

DATED/*DATÉ* Sept 14/77 SIGNED/*SIGNÉ* W G Gibson

PERMANENT ADDRESS/*RÉSIDENCE FIXÉ* 5202 - 43 Ave.
Camrose, Alta.

NL-91 (3-74)

National Library of Canada

Cataloguing Branch
Canadian Theses Division

Ottawa, Canada
K1A 0N4

Bibliothèque nationale du Canada

Direction du catalogage
Division des thèses canadiennes

NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us a poor photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30. Please read the authorization forms which accompany this thesis.

THIS DISSERTATION
HAS BEEN MICROFILMED
EXACTLY AS RECEIVED

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de mauvaise qualité.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30. Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse.

LA THÈSE A ÉTÉ
MICROFILMÉE TELLE QUE
NOUS L'AVONS REÇUE

NL-339 (3/77)

THE UNIVERSITY OF ALBERTA

SELF, LEADER AND GROUP IN OUTDOOR EDUCATION: VALUE CHANGE THROUGH MANAGEMENT OF CURRICULA BY OBJECTIVES

by

© WILLIAM GARNET GIBSON

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF PHYSICAL EDUCATION
EDMONTON, ALBERTA
FALL, 1977

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Self, Leader and Group in Outdoor Education: Value Change Through Management of Curricula by Objectives" submitted by William Garnet Gibson, in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Coll
Supervisor

RIKK ALDERMAN

H. J. McLachlan

J Mitchell

B. C. Howe
External Examiner

Date Sept. 26/77

DEDICATION

This thesis is dedicated to four men who have best personified in the investigator's experience the four factors:

SENSORY AWARENESS OUTDOORSMAN

My Father, Lloyd Gibson

He knew the language of the mountains. The logger, the trapper and the miner were his friends.

SKILLED OUTDOORSMAN

My Fishing Partner, Harold Olsen

His was knowledge that opened the doors of nature. He kept his trust with the land.

OUTDOOR GROUP LEADER

My Protege, Greg Crockett

He was a born leader. In his youth he held the keys to the hearts of men.

OUTDOOR SPORTSMAN

My Mentor, Dr. Don Smith

The wilderness was his field of play, whether with paddle, rod or gun. He loved the great outdoors.

ABSTRACT

The purpose of this study was, first to conduct a controlled investigation of a series of outdoor group experiences, varying in leadership roles and curricular emphasis and then, to synthesize a conceptual perspective from the findings of these case studies and from existing self and group process literature which would be useful in analyzing, understanding, constructing and evaluating, outdoor group experiences and curricula by objective.

In completing the first aspect of the investigation self-actualization and symbolic interactionist self theory was used as a theoretical base for the study. This was made operational by utilizing the descriptive and evaluative framework devised by John Sherwood (1962) to develop an Outdoor Self Inventory. This process subsequently involved the utilization of experts in the field of Outdoor Education, item analysis and factor analysis to arrive at valid Factors that would encompass a major focus in the area of study. The Factors were organized as scales to apply the Alpha test of Generalized Internal Consistency which confirmed the uniqueness of each scale as pertaining to a specific area of the outdoors. Stability of the scales was confirmed via test-retest over a 3 week period. The same group was used as a control group for comparative purposes.

The results indicated by Analysis of Variance and Scheffe Comparison procedure, that the subjects as a whole experienced a high level of difference to control in Outdoor Self Change. The Factors revealed significant changes primarily in the area of Scale 2--Outdoor Skills and Scale 4--Outdoor Sportsman while with the different cases significant changes were elicited from all four areas. In addition it was found that

on the whole the subjects evaluated themselves in a similar manner on all scales excluding Skilled Outdoorsman where the members of the P-group scored the subjects higher. The emphasis placed on each of the four Factors in the experience by each Case leadership team was found to be similar. This was largely due to the presence of the investigator as a participant observer. It was also found that, consistent with the results of current leadership research, the student referent others identified more strongly with the leaders' value system than the rest of the subjects.

It was concluded from the synthesis of the quantitative and qualitative data that the modification of program and treatment effect for each Case elicited a particular response from the subjects. It was observed that the effect of unique group structure, leadership contact, environmental impact, plus the inclusion of particular curriculum elements achieved the objectives set for the outdoor wilderness experience. The data gathered from the Cases were used in the formulation of a number of principles that answered six basic research questions pertaining to subjects interacting together in the outdoor environment.

The second phase of the investigation was to take the existing self and group process postulates combined with the verified principles of this investigation in order to construct a model that would provide the formula for the organization, construction, execution and evaluation of outdoor group and leadership experiences. The model evolved from applying various processes in the outdoor setting to the test Cases. Its application and usefulness has further been validated through its use during subsequent studies since the winter of 1975. It is hoped that institutions will find its application useful, and that further validation of its principles of operation will be forthcoming.

ACKNOWLEDGEMENTS

My most sincere appreciation is extended to Dr. R. G. Glassford, who had faith that a study of this nature could be undertaken; to Dr. H. Scott, my chairman, who allowed me the freedom to pursue the problem in my own way, and to other members of my supervisory committee, each of whom contributed in his own unique manner. Appreciation is also extended to Dr. Bruce Howe for acting as external examiner for the final defense of this dissertation.

In addition special thanks are extended to my assistant leaders, all of whom gave their best to make the treatment effective. To Helen McCleary who under the pressure of a deadline proofread the volume, and to my two mothers, Mrs. Violet Gibson, and Mrs. Mildred Rowe, whose prayers kept me going through the summer of 1977.

Finally, my sincere gratitude and admiration are extended to my wife, Dorothy, without whom this work could never have been accomplished, and my three children, Nancy, John and Carol, for their patience in waiting for the holiday next year.

TABLE OF CONTENTS

CHAPTER PAGE

I. STATEMENT OF PROBLEM 1

Introduction to Study 1

Research Literature on the Impact of Outdoor Education 4

Experience on the Participant 4

Comparisons with Other Group Experiences 14

Purpose of the Study 16

Significance of the Study 17

Organization and Presentation of Thesis 19

II. THE INVESTIGATIVE FRAMEWORK AND INSTRUMENTATION 21

Theoretical Framework for Scale Development 21

Sherwood's Conceptual Framework 26

A Review of Sherwood's Instrumentation and Scale Development 32

Definitions of Terms Applicable to the Outdoor Inventory 38

Outdoor Self Instrument Development 40

Construct Validity 40

Content Validity 42

Criteria Used to Choose Viable Attributes 42

Factor Analysis 44

Test-Retest Reliability 50

Differences Between Factors/Subscales 59

Subscale Test-Retest Reliability 60
Control Group 61
Total Assessment of Final Inventory 61

III. METHODS AND PROCEDURES 66
Overview of Method 66
Procedures and Data Collection 67
Inventory 67
Personal Log of Experience 68
Private Interviews 69
Leader Questionnaire 69
Subjects and Setting 69
Research Design 72
Experiential Variables 73
Independent Variables 74
Outcomes of Dependent Variables 80
Definitions of Terms Related to the Treatment 80
Research Questions and Data Analysis 82
Research Questions 82
Data Analysis 83
Delimitations and Limitations 84

IV. RESULTS 86
Inventory 86
Total Outdoor Identity Change 86
Outdoor Self Identity Change by Scale 87
Outdoorsman Self Identity Change by Case Study 89

Outdoorsman Self Evaluation as it Relates to Total Self Evaluation 91

Objective Public Evaluation and Self Evaluation . . 93

Self Identity Change and Objective Public Evaluation Change 95

Leaders' Importance Rating on Scales 97

Choice of Referent Others 97

Leaders, Referent Others and Subjects 99

Treatment, Descriptive Results and Synthesis of Data by Case Study 107

Case A 107

Program and Treatment Effect 107

Subjects 107

Ascribed Leaders 108

Ascribed Leaders' Orientation 109

Group Organization and Function 110

Procedures for Group Formation 111

Curriculum Elements 112

The Environment 116

Program and Treatment Effects Unique to Case A . . . 117

Summation of Quantitative and Qualitative Data in Case A 118

Results of Inventory 118

Results of Interviews and Diaries 120

Synthesis of Data and Conclusions for Case A 125

Outcomes of Outdoor Group Experience on Self Actualization 126

Outcomes of Outdoor Group Experience on Importance Ratings 133

Case B 135
Program and Treatment Effect 135
Subjects 135
Ascribed Leaders 135
Ascribed Leaders' Orientation 136
Group Organization and Function 136
Curriculum Elements 137
The Environment 141
Program and Treatment Effects Unique to Case B . . 141
Summation of Quantitative and Qualitative Data in Case B 142
Results of Inventory 142
Results of Interviews and Diaries 145
Synthesis of Data and Conclusions for Case B . . . 150
Outcomes of Outdoor Group Experience on Self Actualization 150
Outcomes of Outdoor Group Experience on Importance Ratings 155
Case C 158
Program and Treatment Effect 158
Subjects 158
Ascribed Leaders 158
Ascribed Leaders' Orientation 159
Group Organization and Function 159
Curriculum Elements 160
The Environment 164
Program and Treatment Effects Unique to Case C . . 165
Summation of Quantitative and Qualitative Data for Case C 166

Results of Inventory 166

Results of Interviews and Diaries 168

Synthesis of Data and Conclusions for Case C . . . 173

Outcomes of Outdoor Group Experience on Self Actualization 173

Outcomes of Outdoor Group Experience on Importance Ratings 180

Case D 182

Program and Treatment Effect 182

Subjects 182

Ascribed Leaders 183

Ascribed Leaders' Orientation 183

Group Organization and Function 183

Curriculum Elements 184

The Environment 189

Program and Treatment Effects Unique to Case D . . 189

Summation of Qualitative and Quantitative Data for Case D 190

Results of Inventory 190

Results of Interviews and Diaries 193

Synthesis of Data and Conclusions for Case D . . . 199

Outcomes of Outdoor Group Experience on Self Actualization 199

Outcomes of Outdoor Group Experience on Importance Ratings 208

Case E 210

Program and Treatment Effect 210

Subjects 210

Ascribed Leaders 210

Ascribed Leaders' Orientation 211
Group Organization 211
Curriculum Elements 211
The Environment 216
Program and Treatment Effects Unique to Case E . . . 216
Summation of Quantitative and Qualitative Data for Case E 217
Results of Inventory 217
Results of Interviews and Diaries 220
Synthesis of Data and Conclusions for Case E 225
Outcomes of Outdoor Group Experience on Self Actualization 225
Outcomes of Outdoor Group Experience on Importance Ratings 231
V. SYNTHESIS: GENERAL PRINCIPLES AND CONSTRUCTION OF AN OUTDOOR EDUCATION GROUP PROGRAM DEVELOPMENT MODEL . . . 234
General Principles Derived from the Case Studies . . . 234
Outcomes of Outdoor Group Experiences on Self Actualization 234
Question AI: Composite Self, Outdoor Self, Attribute Factors and Total Self 234
Question AII: Unique Case Modification of Leadership, Group Environment or Curricula Processes 241
Question AIII: Objective Public Evaluation on Self Actualization 248
Outcomes of Outdoor Group Experiences on Importance Ratings 250
Question BI: The Unique Effect of Value Leaders Place on Importance Ratings 250
Question BII: Relationship Between Importance Rating of Leaders, Referent Others and Subjects 250
Question BIII: Characteristics that May Have Caused Subjects to be Chosen as Referent Others 251

Implications for Understanding and Analysis of Self Group, Leadership Elements and Objectives in the Outdoors 252

Outdoorsman Self 252

The Outdoorsman Subself 252

Development and Maintenance of Change in Self Evaluation 257

Power of Instructors and Peers as Referent Others 262

Interpretation, Negotiation and Evaluation . . . 264

The Critical Aspects of Leadership 267

The Group 269

Modification of Group Behavior 270

Group Structure 272

Self Evaluation and Objective Public Evaluation . 272

Group Relations Skills 274

The Natural Environment 276

Evaluation of Man by Nature 276

Sensitization to the Environment 277

Nature's Challenge and Man's Self Needs 278

Strategies to Maximize Nature's Impact 279

Curriculum Elements 280

Introduction Program Treatment Model 280

Planning by Objectives 281

Strategic Use of the Environment 283

Expedition Structure 284

Ecological Learning by Living 285

Pre Expedition Orientation 287

Perceived Risk and Real Risk 288

Risk Weighing in Program Executive 291

Errors in Judgment and Leader Response 292

Reinforcement Learning 293

Teaching of Wilderness Skills 294

Community Development 295

Termination of Expedition 297

VI. SUMMARY AND IMPLICATIONS

Summary 299

Implications for Use of Model 301

BIBLIOGRAPHY 303

APPENDIX A. FIRST TRIAL INVENTORY 319

APPENDIX B. SCANNER SHEETS FOR FINAL TEST 332

APPENDIX C. TEST GIVEN TO 113 EXPERIENCED OUTDOOR EDUCATION STUDENTS 336

APPENDIX D. TEST USED TO ESTABLISH RELIABILITY RATINGS OF ATTRIBUTES 350

APPENDIX E. TEST-RETEST RELIABILITY - FIRST YEAR PSYCHOLOGY STUDENTS - (N 80) 358

APPENDIX F. FINAL OUTDOOR-INVENTORY GIVEN TO CASE STUDIES . . 365

APPENDIX G. OUTLINE FOR ORGANIZING INFORMATION IN DIARY . . . 383

APPENDIX H. A SELF DESCRIPTIVE SHEET DEFINING ONE'S STRENGTHS AND WEAKNESSES IN THE OUTDOORS 386

LIST OF TABLES

Table	Description	Page
1.	Mean Reliability Coefficients for Self Identity and Self Evaluation Measures for Experimental and Control Groups	37
2.	Comparison of Ideal Attributes as to Factor Loadings and Test Retest Reliability Ratings.	47
3.	Factor Loadings from First Test Group on 22 Attributes.	51
4.	Test Retest Reliability.	54
5.	The Results from the Alpha Internal Reliability Test.	56
6.	Comparison of the Discriminating Quality of the Subscales Using Pearsons Coefficient.	60
7.	Verification for Significant Differences in Response by Control Group F From T_1 to T_2 on Subscales.	61
8.	The Samples' Characteristics.	70
9.	Comparison Between Outdoor Self Identity Change in the Control Group (F) and the Total Subjects Treated on All Four Scales, Using Analysis of Variance.	87
10.	Comparison of Different Scale Responses by Each Case Including Control (F) Using Scheffe Multiple Range Test for Significant Differences and One Way Analysis of Variance.	88
11.	Degree of Outdoor Self Identity Change Between All Cases as Compared to Control Using Scheffe Multiple Range Test for Significant Difference and One Way Analysis of Variance.	90
12.	Self Identity Pretest Means of All Cases as Scored on Each of the Four Scales.	91
13.	Relationship of Outdoors Self Evaluation to Total Self Evaluation as Measured by T-Test.	92
14.	The Relationship Between Self Evaluation and the Evaluation of Peers in the P-Group (OPE) on Post-Test Scores Using Analysis of Variance.	94
15.	Relationship Between the Outdoor Self Evaluation Change (OSE) and the Objective Self Evaluation Change of Peers in the P-Group (OPE) for all Cases Together (TOT) Using Correlations and T-Test.	96
16.	Means for Leadership Teams of Each Case on the 'Importance' Rating of the Four Scales Using Analysis of Variance.	98

17. Shift of Subjects and Referent Others Valuing of Each Case Toward the Leaders 'Importance' Value Rating of 0.000. Analysis of Variance of Value Differences Between Subjects, Referent Others and Leaders at T_1 and T_2 100

18. Comparison of Shift by Subjects and Referent Others of Each Case Toward the Leaders 'Importance' Rating (Leaders Value = 0.000). Analysis of Variance of Value Differences Between Subjects, Referent Others and Leaders at T_1 and T_2 for Scale 1--Sensory Awareness Outdoorsman. 102

19. Comparison of Shift by Subjects and Referent Others of Each Case Toward the Leaders 'Importance' Rating (Leaders Value = 0.000). Analysis of Variance of Value Differences Between Subjects, Referent Others and Leaders at T_1 and T_2 for Scale 2--Skilled Outdoorsman. 103

20. Comparison of Shift by Subjects and Referent Others of Each Case Toward the Leaders 'Importance' Rating (Leaders Value = 0.000). Analysis of Variance of Value Differences Between Subjects, Referent Others and Leaders at T_1 and T_2 for Scale 3--Outdoor Group Leader. 105

21. Comparison of Shift by Subjects and Referent Others of Each Case Toward the Leaders 'Importance' Rating (Leaders Value = 0.000). Analysis of Variance of Value Differences Between Subjects, Referent Others and Leaders at T_1 and T_2 for Scale 4--Outdoor Sportsman. 106

22. Summary of Outdoor Self Identity Change on the Four Scales as Measured by the Scheffe Statistic Procedure for Case A. 119

23. Summation of Relationships Between Leaders, Referent Others and Subjects, Case A (Tables 18, 19, 20, 21). 120

24. Summary of Outdoor Self Identity Change of the Four Scales as Measured by the Scheffe Statistic Procedure for Case B (Table 11, p. 90). 143

25. Summation of Relationships Between Leaders, Referent Others and Subjects in Case B on the 'Importance' Ratings T_1 and T_2 (Tables 18, 19, 20, 21). 145

26. Summary of Outdoor Self Identity Change on the Four Scales as Measured by the Scheffe Statistic Procedure for Case C (Table 11, p. 90). 167

27. Summation of Relationships Between Leaders, Referent Others and Subjects in Case C on the 'Importance' Ratings T_1 and T_2 (Tables 18, 19, 20, 21). 168

28. Comparison of Pre and Post Scale Self Identity Means to Ascertain the Non Significant Trends of Case D. 191

29. Summation of Relationships Between Leaders, Referent Others and Subjects - Case D. 193

30. Summary of Scale Results for Case E Scheffe Multiple Range Test (Table 11, p. 90). 218

31. Summation of Relationships Between Leaders, Referent Others and Subjects - Case E (Tables 18, 19, 20, 21). 219

LIST OF FIGURES

Figure Page

I. View of the Self from a Symbolic Interactionist Perspective 256

II. Development Maintenance and Change in Self Evaluation 261

III. Structural Power of Referent Other as Group Leader or Peer Leader 264

IV. Group Evaluation and Function in the Outdoors 273

V. The Outdoor Leadership Development Model 282

CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

Western man, at this point in history is faced with the paradox of enjoying an environment of his own technological creation while at the same time experiencing a desire to return to the authenticity of the natural world. This dualism is often strongly felt among those persons whose roots are in the rural past and who hold that the latter environment produced worthwhile attitudes toward people in their community and toward their environment as a whole. In the last ten years research and educational leaders as part of the "environmental movement" have complemented this feeling with facts regarding the dysfunctional patterns man has used and is using to exploit the resources of the earth through his technology. Such eminent people as those in the Club of Rome, have quantitatively encapsulated this concern with the publishing of their findings in the book, Limits to Growth (1972). The complex and exponentially expanding problems of over-population, diminishing resources, technological pollution and territorial war, have been dramatized to even the most naive.

One of the solutions recommended by most sectors as an answer to our present global problem is to educate the young in values and knowledge that will enable them to anticipate and cope competently with these predicted scenarios of the future. This assignment for the educational community is awesome in scope; it not only requires the inclusion of new content in curriculum but also a focus on changing many of our present values regarding the use and preservation of the environment. The inclusion of new content in curriculum has not been difficult as this sphere fits the mental set of most educators, but to initiate an equal concern and emphasis on an ethic for long range human survival has been more difficult.

In reference to the former, a surprising increase in the amount of materials and teaching aids to help children learn how to treat the environment has appeared in recent years. In order to make this more than a cognitive exercise, teachers and eventually school boards have begun providing outdoor learning experiences for children. This has been an attempt to fulfill the creed of L. B. Sharp, historic founder of the Outdoor Movement in Education, who tacitly stated:

> That which can best be learned inside the classroom should be learned there. That which can best be learned in the out-of-doors through direct experience, dealing with native materials and life situations, should there be learned. (Sharp, 1957: 7)

To facilitate this type of learning, particularly for children of the urban centers, totally immersing them in the outdoor environment where they would have close contact with a wide variety of flora and fauna, was formally initiated. Outdoor schools soon developed across the U.S.A. and Canada through the use of church, Y.M.C.A., Scout and Guide, camps, farm sites and eventually the acquisition of land by school authorities for this expressed purpose.

Until recently in order to justify the existence of this new, costly aspect of education, the emphasis was primarily focused on content learning about the environment. Relatively little emphasis was placed on the experience of living in the environment as a means of effecting a direct awareness of one's place in that environment, or of one's values towards and relationships with, other beings--human and non-human in one's own ecological community.

As even the above cursory analysis of the environmental problems facing us indicates, alleviation of these conditions will call for more than content or cognitive environmental education. It would seem to be a historical truism that unless persons value or have a deep feeling for a particular habitat or person, they behave indifferently toward that habitat or person. This point of view was expressed by P. J. Hoffmaster, the Director of Conservation for the state of Michigan, in May of 1950, when he wrote:

> For years we whose business it is to enforce or promote conservation laws and principles, have seen the need for a much greater understanding of Nature on the part of people . . . adults and youth alike. Long since we have learned that hunters and fishermen cannot be coerced into complying with law, or into exercising ordinary woods and water manners by and through policemen alone, regardless of the officer's efficiency and adroitness. We think it is demonstrable that law, obedience, and the niceties of sportsmanship must come from within.
>
> The motivating force that will cause people to use rubbish containers rather than to throw rubbish wherever they happen to be, lies not in the park managers and their aides. It must be part of the park user. (Hoffmaster, 1950: 516)

Today with an increase in leisure time, a desire to "do one's own thing" and the freedom to escape to the beauty of nature, human impact on wild lands has not diminished but has increased. The persons using the environment are educationally more schooled in the need to preserve and maintain the wilderness in its natural state, yet their actions as a whole in living in that setting have not changed enough to guarantee its aesthetic, long range preservation.

One would assume that this trend would have resulted in discovering how to more effectively transmit a value system to cope with these escalating pressures on nature tied irrevocably to increased population, advanced technology, pollution, diminishing resources and war. A review of related literature indicates that this has not been the case. Little if any research is available on how to bring about a change in values as they relate to man and the environment. An expectation of the present investigation is that a start could be made in this direction.

Research Literature on the Impact of Outdoor Education Experience on the Participant

The values that men hold will, in effect, destroy or preserve mankind and the environment whether it be in the area of conservation of wilderness areas, the preservation of exotic animal life, or the economic development of our natural and human resources. A review of the research literature indicates that little study has been systematically directed to the question of "learning" values through and by the media of outdoor education. However, some studies have attempted to measure the total effect of outdoor experiences on participants. Many of these deal with the organization called Outward Bound Inc. which has made claims that interaction between man and the natural environment will bring a significant change in his character. Their motto is "To Serve, to Strive, and Not to Yield". The founder, Dr. Kurt Hahn, has explained that the curiosity, drive and undefeatable spirit of young people can be preserved and kindled by explorations and adventure in the outdoor environment (Hasell, 1969).

Although the outdoor group cases studied in the present research did not include all the variables that one would find in a structured Outward Bound experience, many variables were similar, such as the removal of the subjects from their primary social constructs, subjecting them to the controls of nature, exposing them to activities requiring physical prowess involving an element of danger, and the living together in small groups for a period of time. Therefore, it was pertinent that the literature in this area be reviewed in depth as it reflects the influence of the outdoor setting.

In 1966 the Massachusetts Division of Youth Service and Outward Bound, initiated an extensive experiment to ascertain whether the Outward Bound experience would be an alternative to institutionalization for delinquent adolescent boys. This study took place at three widely separated centers in the U.S.A. The boys were enrolled at Hurricane Island on the east coast, at Minnesota Outward Bound near the Questico Wilderness, and at the Colorado School near Denver. Though this study did not use the measurement of self concept as the prime determinant for measuring the success of the project, the whole experiment sought to build up self concept through the development of higher levels of competence.

> . . . the adolescent is called upon to achieve beyond what he believed he was capable; to demonstrate his competence in the most meaningful way--by action. An underlying assumption of the present study was that by participation in an Outward Bound program a delinquent's self-concept would improve and he would adopt a more socially acceptable mode of behavior. (Kelly and Baer, 1968: 5)

It was demonstrated that the delinquent boys could perform successfully when integrated with large numbers of non-delinquents.

The prime measure of success was the rate of recidivism after release from the experience. A comparison showed that boys who attended the Outward Bound program had a recidivism rate of 20 percent, while the controls who attended a correctional institution had a recidivism rate of 37 percent. Results of self concept change measured by the Osgood Semantic Differential Inventory indicated an improvement in self concept significant at the .001 level. Two important attitudes were fostered: an increased regard for boys who do not get into trouble with the law and a decreased estimate of those who did (Kelly and Baer, 1966).

A similar study was conducted by Willman and Chun (1972) in Massachusetts called Homeward Bound. They found by developing higher levels of competence in participants, self concept will also improve, and anti-social behavior will diminish. In this study only 20.9 percent of the Homeward Bound group recidivated as compared to 42.7 percent of the control group.

Clifford and Clifford (1967) enrolled a group of adolescent boys in the Colorado Outward Bound school. The instruments used were self-rating scales adapted from Dickey's (1958, 1961) work, a Counsellor rating scale, and a Word Meaning Test based on Osgood's (1957) Semantic Differential model. The data indicated that the ideal-self measure showed no change over time, demonstrating that this component is somewhat fixed and relatively resistant to change, or the type of experience had little or no effect on the ideal-self. The change that took place was a significant change in that the self concept was brought into closer proximity to their ideal-selves. The hypothesis in this study was that the feelings of self-worth and competence would take place as a function of a vigorous experience. The study would have been more valuable if a control group had been used.

In order to validate the work by Clifford and Clifford (1967), Payne, Drummond and Lunghi (1970) administered the Eysenc Personality Inventory and the three self scales devised by Dickey (1958, 1966) to a group of 35 boys going on an Arctic expedition. The results showed that changes did occur in the participants but not in the control group. In the total experimental group the discrepancy between their self and their ideal descriptions diminished by a change in both precepts rather than in one or the other. When the group was broken down into its subgroups it was found that the boys from public school (N = 11) demonstrated a notable (positive) diminution in their ideal-self at the end of the expedition, whilst the grammar school boys (N = 19) and police cadets (N = 4) had markedly improved their self-description, and these changes were responsible for the significant changes toward improvement of the group taken as a whole. Even though the researchers in this study stated that the results did not substantiate the findings of Clifford and Clifford, who found it was the self-rating that changed and the ideal-self rating which remained constant, the important point in both these studies is that changes in self-ideal-self discrepancies did occur. In the latter, this change is further validated by the lack of change in the control group.

Vander, Wilt and Klocke (1971), seeing a parallel in the Experimental Studies Program at Mankato State College and that of Outward Bound, initiated a joint experiment in 1970. The Experimental Studies Program emphasizes the development of community through group sensitivity training efforts; Outward Bound emphasizes the development of community and an examination of the processes involved in the development of community. The object of the study was to determine whether or not the Outward Bound experience would assist in the self-actualization process as measured by the Shostrom (1966) Personal Orientation Inventory.

When comparing the pre and post test scores of the female portion of the sample (N = 10) significant changes occurred at the .10 level on seven scales: Time ratio, Support Ratio, Self-Actualization Value, Existentiality, Feeling Reactivity, Self-Acceptance, Nature of Man and Capacity for Intimate Contact. In contrast, no significant change at the .10 level occurred in the scales for males.

It is suggested that since the change on the part of the females accounted for the change in the whole group, that the program must have had a particular effect on girls. The physically and psychological stressful situations in Outward Bound may force females into roles much more masculine than previously experienced. However, all participants regardless of sex moved in a positive direction, indicating an advance toward being more self-actualizing people as defined by Shostrom (1964).

Foster (1971), analyzed an Outward Bound experience as a possible aspect of teacher training. Faculty and student questionnaires were developed, and the Thurston Temperament Schedule was also administered to all participants. As a result of this experiment faculty and students were better able to communicate and understand each other. This study is of value in providing insight into oral questions regarding an Outward Bound experience and its implications for teacher education.

Another area of developing research is related to the effect of a general curriculum with a natural science emphasis. Since grade six is considered to be the time in the school curriculum when the least disruption to the programmed learning of schools occurs, most outdoor experiences are for this age group, particularly for resident camp outdoor education experiences. A number of studies cited below have been conducted that give valuable insight into the effect of these experiences on the self-concept of this age group.

Jerome Beker (1959) evaluated seven groups of campers attending New York University camp at Sloatsburg, New York. Comparable groups of non-campers were used as controls. A 56-item check list was used to evaluate pupils' self concepts. The experimental groups attending the school camp showed more positive feelings toward themselves after the camp experience than before. These changes were in greater magnitude than those of the control although no significance ratings were recorded. A second administration of the post test given ten weeks after the experience showed an even greater change.

In 1964-65 Gibson (1966) evaluated the attitude change and social development of Grade VI students from Colonel Walker School in Calgary who attended the first formal Alberta project in school camping. The instruments used were Guttman attitude scales and sociometric questionnaires. The results of the attitude scales showed that the attitude of students toward the areas measured greatly improved, girls had a stronger interest in outdoor activities, and the 1965 sample scored higher than the 1964 sample. The sociometric data showed that in a non-competitive camp, the placing of students in cabins according to high and low social rank improves group cohesion, reduces the isolates and neglectees and provides for a greater opportunity for students of low rank to gain self-esteem. It also allows students of low rank a greater opportunity to assume leadership roles and at the same time forces those of higher rank to compete more rigorously for a position of leadership.

Davidson (1965) investigated changes in the social relationships and self-concepts of fifth and sixth grade children exposed to two opposing school camp curricula based on differing philosophies. One camp was child-centered, where the children had input into the program and the administration of the camp, while the other was adult-centered and more authoritarian. Self concept check lists and classroom social distance scales were used. It was found that both camp programs produced positive change on the social concept scale and in social relationships. There was no significant difference between the results from both camps.

In an effort to determine the effects of physical skill and academic improvement on the self concepts of mentally retarded adolescents, David Steel (1969) used a sample of 31 students for treatment and had a control of the same number. The treatment group was divided into two for instruction, one section in physical skills and the other on academic performance. The groups were evaluated both before and after the 4 week camp experience. The results indicated a greater immediate gain in self concept for both treatment groups than for the control group. The treatment group did not show an increase in academic achievement either immediately after the treatment or following one semester of instruction in school. In contrast the physical skills self concept group did show a greater academic achievement gain over one semester than did the academic self concept group.

Albert Alexander (1969) of Boston University compared the self concepts of boys from low income families, half of whom had experienced a camping program. Seventy-five boys received a residential camping experience and were matched with seventy-five boys who did not experience a camping program. Ages ranged from 11 to 15 years. The Tennessee Self Concept Scale was administered to both groups prior to the camping experience and again six weeks after the experience. The comparison of pre and post test scores revealed a positive change for each group, but no difference was found between the two groups when analysis of variance was applied.

Coolbaugh's (1972) research was conducted with under-privileged children who were sponsored for their camping experience. The impact of the program was measured in terms of four sub-categories of self concept: trustworthiness, self-control, unselfishness, and independence. Results consistently demonstrated marked positive effects on the campers and how they felt about themselves. It was also observed that the campers who initially had the lowest scores demonstrated the most gain in score at the second testing.

Becker (1960) found that significant positive shifts in the self concept of pupils of both sexes who had been participants in a camping experience occurred, and that the social climate provided by the camping situation increased the feelings of confidence in children which was not matched by children who had not gone to camp.

Krieger (1973) found in a review of the research literature that a positive effect was recorded on self-concept for most children as a result of an organized camp experience. His research intended to probe the specific effects that brought about this change. He compared self-concept ratings of younger and older campers as well as male and female campers. Although he found an increase in the self-concepts, no significant difference in the groups was noted. "The potency of the camping experience carries across age and sex groups in terms of promoting positive feelings about the self". (Krieger, 1973:16)

Gene Cummings (1974) of the Community Mental Health Center, Provo, Utah, has used desert survival experiences to help the mentally ill return to reality and to take their place once more in modern society. Two students, Ruth Butler and Nancy Haslam (1970) conducted research into self-image change on two mental patients and six student nurses. The subjects went on a four-day survival trip, including initiative tests, solo, and survival training. They were tested for self-image change with the Tennessee Self Concept Scale developed by William H. Fitts (1971), and a correlation was attempted with that of the subject's overt behavior in the next two weeks. They concluded that even though there was a general improvement in self-concept ratings, no significant relationship could be drawn between that and change in behavior.

Working in the same area Jerstad and Stelzer (1973) took 51 patients from the Oregon State Mental Hospital on an adventure camp with aspects similar to Outward Bound programs. They reported clearly observable changes in self confidence, sense of accomplishment and overall level of adjustment of the participating patients.

A measurable indication of the program's success is revealed in the fact that 31 of the 51 patients involved have been released from the hospital, including one individual who had been hospitalized for 24 years.

Adams (1969) used the Tennessee Self-Concept Scale to measure the effects of a 30 day survival course on 19 institutionalized adolescents. He found a change ($P. \leq .05$) in the mean total self-concept of other participants. In 1970 Howard followed this study by taking emotionally disturbed children on a 26 day survival experience. His results corroborated that of Adams.

A recent study was done in Alberta by Pierre Berube (1976) at the Westfield treatment center for institutionalized behaviorally disturbed boys. Six boys between the ages of twelve and sixteen took part in a 5 day wilderness survival exercise in the mountains. They were administered the Tennessee Self-Concept Scale before and after the experience. The results indicated that both the treatment group and the control scored low on the pre-test and that the null hypothesis was not rejected as there was no evidence that $\mu_1 > \mu_2$ at the .05 level of confidence.

Heaps and Thorstenson (1971) did a series of studies on the self-concept change taking place in college students who took the desert survival courses at Brigham Young University. The Tennessee Self-Concept Inventory was used as an instrument in the following youth leadership 480 courses:

1. Spring, 1971 - 30 day expedition ($N = 13$) 8 females, 5 males. The results showed a significant positive change ($P \leq .01$ and $.05$) overall level of self esteem, and on the following scales: Identity, Self-Satis-

faction, Behavior, Personal-Self, Family-Self and Social-Self. Change was not significant in Physical-Self and Moral-Ethical-Self.

2. Summer, 1971 - Session I - 10 day expedition (N = 24) 14 females, 10 males. The results showed a significant positive change (P ≤.01 and .05) in: Self-Criticism (decreased defensiveness), Identity, Self-Satisfaction, Behavior, Physical-Self, Moral-Ethical-Self, Personal-Self, Family-Self, and Social-Self.

3. Summer, 1971 - Session II - 10 day expedition (N = 28), 28 females. The results showed a significant positive change (P≤ .01 and .05) in the overall level of self-esteem (total positive score), and in the following scales: Identity, Behavior, Personal-Self. Change was not significant in Self-Criticism, Self-Satisfaction, Physical-Self, Moral-Ethical-Self, Family-Self and Social-Self.

A study completed at the University of Alberta by Thompson (1975) approaches the topic of self in the outdoor setting from a similar stance to that of the investigator. She utilized five outdoor education classes at the University of Alberta involving 103 subjects. The study was based around a three or four day field trip in a semi-wilderness area where the emphasis was placed on gaining knowledge and skills. The classes were divided into P - groups for the experience ranging in size from two to eight members.

The perception inventory developed by Sherwood (1963) was used as a guide with many of the dimensions being replaced with those more specific to the outdoor education experience. Although no control group was established the following results can be taken at least as evidence that something occurred:

1. A highly significant positive change occurred in self-concept for the participant in the outdoor experience.
2. Significant self-concept changes were found in the skill,

($P \leq .0001$) socio-emotional ($P \leq .001$) and leadership ($P \leq .001$) dimension areas. The aesthetic and task accomplishment dimension areas were not found to have changed significantly.

3. Significant self concept changes were found in preferring to direct, skillful with an axe, manual dexterity, self confidence, initiative, competence in outdoor skills and knowledgeable of the outdoors. The dimensions appreciating nature and enthusiasm showed negative changes although not significant.
4. No significant difference in self concept change was found between those who were members of a P- group and those who camped alone during the outdoor education experience.
5. The coincidence between the individual's self-concept and the perception of him held by his P. group was not found to be significantly greater after the outdoor experience.
6. The coincidence between the individual's self-concept and the perception of him held by a preferred other was not found to be significantly greater than between himself and a least preferred other.

Comparisons With Other Group Experience

The literature covered pertaining to outdoor experiences seems to imply that small group experiences have a positive impact on the subject's self-concept and self-evaluation. Little research has been done to determine what factors in the outdoor experience are the chief stimulators for change to take place. Sullivan, Springer and Williams (1970), using a variety of comparisons, found that there was little or no significant difference between the groups they tested. A ranking of test groups in order of individual change in all areas was: Wilderness Stress, Football, Encounter, Control, and Advisor. (It would seem that from this description the control group and the advisor group had basically the same experience and were in effect, both control groups, due to the fact that the advisor group was called such because they could avail themselves of a professional counsellor but did not make the effort. The researchers also reported that Wheaton College makes a rigid selection of students and that, as such, the control group would have qualities which would confound the training effect of the experimental groups.)

It would appear that this study plus a number already quoted, such as that of Becker (1960), Krieger (1973), Scott (1973), and Thompson (1975) imply that an experience by a group, if it provides a means of positive self-evaluation, whether the experience be in football, encounter groups, or a wilderness setting, will be worthwhile for a significant upward evaluation of a person's self concept. In the outdoor setting the great need is to find out what aspects of the outdoor experience truly affect the subjects. As yet there is little research to identify what factors may be influencing persons in this setting.

Despite the great need for solutions to our environmental problems and the promise of outdoor education in this regard, the general lack of conceptual and methodological tools has not allowed educators to design, evaluate and improve the outcomes of outdoor educational programs in any systematic way. It is apparent that a number of very important practical and pertinent questions require further and perhaps extensive investigation.

1. What educational outcomes and self-changes accrue to individuals involved in outdoor group educational experiences?
2. How may these self-outcomes be assessed?
3. How do these outcomes relate to group or course objectives?

4. How do such social psychological and organizational processes as leadership, group structure and dynamics, and curricular elements affect self-outcomes in outdoor education?
5. How does leadership and status emerge in outdoor groups?
6. How do environmental factors affect individual outcomes?
7. How do these human and non-human environmental factors interrelate in their impact on the self of the outdoor leader and his colleagues?
8. How may these factors be consciously planned and controlled so as to maximize achievement of outdoor educational outcomes?
9. How does the importance and evaluation of various characteristics of skills evolve or diffuse in outdoor groups?
10. How does self-change resulting from outdoor experience affect self-esteem as a whole in the individual?

Purpose of the Study

There were two main purposes central to this study. The first sought to carry out the controlled investigation or case study of a series of outdoor group experiences, varying in leadership roles and curricular emphasis.

The second sought to synthesize a conceptual perspective from the findings of these case studies and from existing self and group process literature which would be useful in analyzing, understanding, planning, managing, and evaluating outdoor group experiences and curricula by objective.

Specific sub problems to be pursued were:

1. To adapt existing self-theory and instrumentation to the description and evaluation of outdoor group experience.

2. To utilize existing group process and leadership literature in the development and evaluation of a series of outdoor group curricula.
3. To utilize the evolved conceptual and empirical tools to carry out a series of controlled case studies in the outdoor group curricula.
4. To utilize the findings of these case studies to begin to evolve a framework for the analysis, understanding, construction, and evaluation of outdoor group curricula.

Significance of the Study

Theoretical Significance of the Study. Environmental and Outdoor Education programs have produced many claims as to their importance for the solving of man's problems, yet little systematic assessment has been carried out. Those few studies which have been done, typically use instruments that fail to provide a conceptual link between the individual, leaders, and group experiences. Little attempt has been made to conceptualize and empirically assess the impact of the natural environment on the individual.

The investigator chose to adopt the "self" theory and instrumentation of John Sherwood (1963) to group experiences in the environment. Sherwood's research attempted to draw together the "self", "other" and "group" material of the symbolic interactionists with the "self-actualization" ideas of Rogers, Maslow et al., and to operationalize this "self" theory in a "self and other" evaluative instrument.

It was the intent in the present study to apply Sherwood's theory to the outdoor scene where the subjects would be further influenced by certain treatment effects, both curriculae and environment. The intent was to develop a theoretical and conceptual framework that could be used to systematically organize and effect curricula, leader roles, and the evaluation of self-identity change vis a vis programme objectives. This schema was used, attempting to describe, understand and evaluate a series of case studies done on wilderness group experiences.

Methodological Significance of the Study. Sherwood's approach lends itself to a method that can be modified to assess the self-leader, self-group interaction. It was hoped therefore, that the present application of that approach to the study of outdoor education group outcomes would make a methodological contribution to the developing outdoor education research field. Further this multi-method study has attempted to use the tools of both quantitative and the qualitative social scientists. It was anticipated that other researchers might benefit from the author's experiences with those natural or field "experiments". Valuable information was discovered in terms of how to apply an inventory structure from one setting to a more comprehensive setting. Other students assessing the findings of the methodology will, it is hoped, be able to avoid some of the pitfalls discovered here in pursuit of instrumentation, that would provide a reasonably reliable and valid assessment of the kinds of complex problems encountered in this investigation. This in itself would be of major significance to the study of the self in the milieu of the outdoor environment.

Practical Significance of the Study. A great deal has been said about environmental and human inter-personal problems of the twenty-first century. Any approach or process which begins to alleviate some of these problems or that could help to bring about improved social value change and personal fulfillment would be of worth. Many claims have been made by the leaders of the Outward Bound movement (Hasell, 1969) and other wilderness organizations in this regard, yet little systematic means can be found of comparing and assessing not only the impact of the leadership process, but the self-change of the students when immersed in the total milieu of the outdoor experience. It was hoped that the schema and instruments evolved, when applied, could contribute to the greater achievement of success in planning, managing and evaluating outdoor education goals through the improved vis-a-vis program's specific objectives.

Organization and Presentation of Thesis

This study has evolved through several sequential steps, each requiring completion prior to commencing the subsequent stages. Initially it involved the modification of Sherwood's Inventory to include attributes that encompassed the values, characteristics, social factors and physical skills related to the outdoor setting. A second phase sought to assess the programs' or treatment effect from a quantitative as well as descriptive stance. The final phase involved the utilization of the case study data in the development of a conceptual framework for understanding, constructing, managing and evaluating outdoor group curricula and self-change vis-a-vis group and individual objectives. Reporting on these phases is presented in six chapters as follows:

Chapter I. The opening chapter presents a brief overview of the study and related literature, justification of the project and a statement of general and specific research problems.

Chapter II. This chapter presents the conceptual framework utilized and describes the steps used to modify Sherwood's instrument in order to apply it in the research as a useful tool. This includes the initial process of utilizing outdoor experts in choosing attributes of the outdoorsman, of working through item analysis and factor analysis and assessing reliability in order to arrive at the final scale. A discussion of the strength and weaknesses of the instrument as used, terminates the chapter.

Chapter III. The methods and procedures chapter presents an overview of the methods used, and describes the procedures and data collection, subjects and setting, and research design. A summary and short description of the experimental variables as applied to the investigation is presented followed by the basic research questions and data analysis. The chapter is concluded with the delimitations and limitations of a "natural experiment".

Chapter IV. Results of the case studies are presented and assessed in this chapter, using the results from the Sherwood (Gibson) inventory, participant log excerpts, oral interviews and the observations of the investigator.

Chapter V. In this chapter the material and results from the case studies are used to synthesize a conceptual perspective that could provide a framework for the analyzing, understanding, constructing and evaluating of outdoor group experiences.

Chapter VI. This chapter contains conclusions, summary and implications of the study.

CHAPTER II

THE INVESTIGATIVE FRAMEWORK AND INSTRUMENTATION

The present study seeks to describe, understand and evaluate what was happening to individuals interacting face-to-face in groups in the wilderness setting. In order to discover what they were feeling about themselves, about their leaders, about fellow campers and about their environments, a variety of research methodology was needed. Included in this multi-method battery of approaches were a personality-type inventory, questionnaire, natural observation, interviews, and participant logs. To organize and interrelate all these types of data a holistic conceptual framework or theoretical perspective was needed. The "self" theory of Sherwood provided a general viewpoint amenable to the application of self in the outdoor education group. The present chapter focuses on the background and development of such an "outdoor self" framework and instrument. Other methods used are given in the following chapter.

The chapter is divided into three major sections in order to put the conceptual and methodological materials in perspective for the development of the present outdoor inventory. The first section overviews the theoretical framework used by Sherwood in the development of his instrument. The second part attends itself to the step by step procedures used by the investigator in instrument development in order to arrive at meaningful outdoor attributes and subsequent factors or subscales. The internal consistency and reliability of these subscales was evaluated with that of the control group. The final section presents an evaluation of the instrument.

I. THEORETICAL FRAMEWORK FOR SCALE DEVELOPMENT

An understanding of self theory, central to the present study calls for an appreciation for the development of self in modern Western psychology. Much of this history began with William James in his book Principles of Psychology, who stated:

> In its widest possible sense, however, a man's self is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his house, his wife and his children, his ancestors and friends, his reputation and works, his lands and horses, and yacht and bank account. (1904: 291)

He saw the self as an integration of all that seriously affects the organism. In addition he saw the integrated self as composed of a number of composite parts relating to the important components of life, i.e., the social-self, the spiritual-self. He developed the concept of "multiple-selves" which has been elaborated by Cooley (1902) and Mead (1934). Cooley demonstrated that in the primary group the child begins to develop conceptions of himself from the gestures and actions of others. He termed this the "looking glass self" which is based upon action and reaction of significant others. Mead (1934) furthered this concept by proposing that the child soon learns to see himself as an object or a "me", through imagining how referent others see him. Subsequent to these early beginnings, the thinking of such men as Adler (1935), Kafka (1935), Goldstein (1939), Allport (1937, 1961), Combs and Snygg (1949), Erikson (1950, 1956) and Rogers (1951, 1959), transformed the "me" into a concept of total self-identity or "I".

Many American psychologists working in clinical areas found behaviouristic models too limiting to account for all the phenomena they were observing and were ready to entertain revised psychoanalytic techniques and other viewpoints. This provided an opening for the Gestalt psychologists to inject their phenomenological methods and theories. Some of these theories, (e.g., Lecky, Rogers, Combs and Snygg), stressed the role of the conscious self-concept sometimes called the phenomenal-self. By the phenomenal-self, Combs and Snygg explained the self much like that of William James who concluded that it was all the self perceptions that an organism experiences, "a Gestalt of his concepts of self". Anderson (1965: 2), in her studies suggested:

> Everyone has an image or a concept of himself as a unique person or self, different from every other self. This concept pertains to one's self both as a physical person and as a psychological person--i.e., each one has a physical self-image and a psychological self-image.

Rogers (1951, 1959) was amongst the first to begin to organize a conceptual framework that saw the self as a primary determiner of behavior. He postulated that the need to preserve and enhance this concept is one of man's basic motivations. Following from this premise in Rogerian theory, one can view the self concept as a rather stable empirically-derived determinant of behavior; it is an image which the individual tries to maintain even in the face of considerable pressure to change when his behavior is reflected in what is termed "a real-ideal-self-concept discrepancy" (Rogers, 1959).

Haas and Maehr (1965) stated that earlier theorists suggested an individual's concept of himself was a direct response to the way he had been treated by reference people or "significant others". A great deal of work related to reference group values and attitudes, member roles and individual member attitudes and identities was reviewed by Hyman and Singer (1968) and Sherif (1967).

Sherif and Cantril (1947) and others have shown that the importance of an attitude or activity to the self, i.e., its "ego-involvement", is related to the relevance or salience of the individual's group roles. The Freudians explain the origins of ego-ideal as due to identification with people whom the child loves or admires or fears. Through the process of identification the child comes to imitate the values and attitudes of other people, such as, initially, parents and later teachers, youth group leaders, heroes of adventure and romance and attractive age-mates. The social psychologists think of the ideal-self as a name for the integrated set of roles and aspirations which direct the individual's life. Havighurst, Robinson and Dorr (1946), after an extensive study, confirmed the accumulated evidence that the ideal-self was deeply influenced by association with people who are in positions of prestige because they are older, more powerful and better able to get the desirable things of life.

The proposition that the individual will change self-evaluation relative to his perceived evaluations of significant others has been found by Videbeck (1960) to hold for a group of college orators. Post treatment (praise or criticism of oratory skills assigned at random) self-evaluations of skills moved in the directions predicted. He also found a "spread of effect gradient" related to self-attributes more than to unrelated self-attributes.

Maehr et al. (1962) replicated Videbeck's study using a junior high school physical education class and the evaluation of physical skills, and found similar results. In two later experiments Haas and Maehr (1965) found the effects of evaluation of self-evaluation to persist over a six-week period. Effects on the self-attributes increased over a period of time. They theorized that this was attributable to time needed in resolving the inter-relationship between self-attributes. Their second experiment showed a relationship between the "dosage" or "strength" of referent others' evaluations and the degree to which a subject evaluated himself up or down on the scale. Both Videbeck (1962) and Maehr (1962) used nine point unidimensional self-rating scales with good success.

Rosenburg (1965) extensively surveyed the self-image of adolescents and found that the characteristics and skills which were judged important by individuals were also found to be attributes in which they evaluated themselves as being "good".

Cohen (1954) found self-evaluation to be dependent upon evaluative communications from others concerning the person's performance and the evaluations which others assigned to his defensive behaviors. Task failure in a group that was attractive to the person generated lower self-evaluation than where the group was less attractive (Rasmussen and Zander, 1954). Zander, Stotland and Wolf (1960), Zander (1958), Festinger (1954), and Israel (1956) have demonstrated that prestige in a reference group was an important determinant of a person's self-evaluation.

Koocher (1971) conducted a study to test the hypothesis that newly developed competence in a specific area, swimming in this case, would create changes in the self-concept of the individual concerned. Swimming as a skill was chosen because it was felt that for a child the challenge of overcoming this medium would have powerful implications. Sixty-five boys between the ages of 7 and 15 years at a Y.M.C.A. summer camp were divided into three groups: those who learned to swim during the 12-day period (Group A); those who failed or refused originally and did not learn to swim during the observation period (Group B); and the test group, consisting of boys who passed the initial swimming test and spent the next 12 days improving their swimming skill (Group C). The data supported the hypothesis that subjects in Group A showed a significant improvement in self-concept while subjects in Group B and C showed little marked change. This evidence was used to support the assumption that development of competence in an area heretofore marked by failure or avoidance results in enhancement of self concept. Diggory (1959) had suggested that people tend to withdraw from situations in which they perceive their probability of success is low. The findings in this study are consistent with this view to the extent that the boys who refused to take the swimming test in the pretest were unlikely to learn to swim during the treatment phase. In addition, Koocher indicates that the increased self esteem attained in learning to swim, while significant within the camp content, did not exert a long-lasting effect. This conclusion followed from the fact that the self concepts of youngsters who already knew how to swim did not differ from those who could not swim at the beginning of camp.

Sherwood's Conceptual Framework: As Applicable to Development of an Outdoor Inventory

In assessing research in the area of the self, one comes upon a plethora of terms--such as self concept, self regard, self-acceptance, self perception and self-esteem. Gergen (1970) points out that by using such terms in an interchangeable fashion, conceptual subtleties can be overlooked. Sherwood seeking to consolidate these terms into one generalization used self identity to mean self acceptance, self perception or self concept, he then submitted the term self evaluation to mean either self regard or self esteem. Using these definitions he then developed a systematic framework and theory for the measurement of self similar to the work of French and Raven (1959) and Miller's Theory (1962). The theory was tested in a "natural experiment" examining the self identity change process as a result of a two-week sensitivity training session. They found that participants' self identity and self evaluation changes were more closely related to their subjective and objective referent others than for non-referent others in the group. Importance or coreness of self-attributes were found to be related to the group salience of the attributes.

Since the theoretical schema for this investigator's research will be based primarily on that of Sherwood's theory and study, a detailed discussion regarding this theory is appropriate. To understand what is meant in this study by the term self identity it is useful to begin by indicating unacceptable definitions. It is not the subjective experience of "being one's real self" as has been used by Erikson (1956) and Bugental and Zelen (1950). It is not that described by Combs and Snygg (1959) who maintain that "the locus of psychological causation lies entirely within the phenomenal field of conscious experience".

In Sherwood's (1963:7) terms:

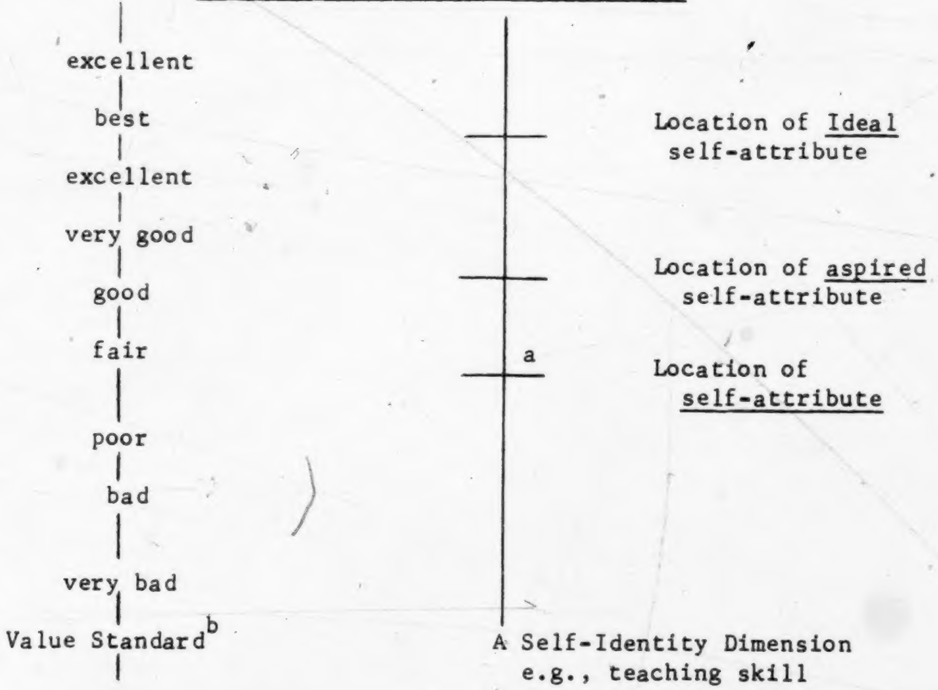
> Self-identity theory deals with one behaviour system among others, and all behaviour is not assumed to be related to the person's self-identity. Self-identity is not personality, the latter being the more inclusive concept. Neither are we advocating inner essences, inner strivings to doctrine of self-interest nor neurologisms. Hume once stated, "I can never catch myself at any time without a perception, and can observe anything but the perception". (1970:239). It is precisely these perceptions of which we speak!

To operationalize the theory, the basic concept of self identity was broken down into cognitive categories by Cartwright, French and Sherwood (1963). This notion that self identity was an internal frame of reference and that one's self and others are perceived and evaluated by means of cognitive categories is supported in the research literature (e.g., Deutsch and Solomen, 1959; Alfert, 1958; Goldstein and Scheerer, 1941; Coates and Pellegrini, 1957). The same notion has also appeared in the theoretical writings of Jourard (1957), Rogers (1951, 1959) and Stock (1949).

These cognitive categories are termed primary subsets and consist of dimensions of person perception attributes. The primary subsets might be: aggressiveness, neatness, honesty; others might refer to abilities, e.g., intelligence, or skills, e.g., golfing or putting. The individual assigns the primary subset in the perception of himself. As he does he understands that if he assigns one attribute to himself he will not see himself possessing other attributes of the same subset, e.g., he will not perceive himself as being both stupid and bright at the same time, nor will he see himself as a teenager or in his thirties at the same time. It is postulated that by matching an individual's primary subsets to the primary subsets which are accepted by most members of the group, one comes to a state of socialization. It appears that the way primary subsets are learned and related to one's own experience is the result of the social comparison process (Festinger, 1954). The child learns how bright he is from comparisons which are made by his parents, himself and others with regard to other children. As he learns primary subsets for perceiving and evaluation of others, he learns how to perceive and evaluate himself. Shibutani (1961: 159) states that "man perceives himself in terms of the linguistic categories and premises of his culture . . . limited by the symbols that are available to him for describing and ordering his experiences".

It is assumed that relations between elements (attributes) of a primary subset are ordered in some fashion with respect to one another. This kind of relation is typically called a nominal scale or nominal relation. The degree of difference between points on the dimension is based primarily on a mutually agreed model. By creating an ordered distance between two opposites of a primary subset of person attributes, such that the person attributes constitute an ordered series of at least

Example of Self Identity Dimension


excellent
best
excellent
very good
good
fair
poor
bad
very bad
Value Standard[b]
Location of Ideal self-attribute
Location of aspired self-attribute
a
Location of self-attribute
A Self-Identity Dimension
e.g., teaching skill

A self-identity dimension, e.g., teaching skill. This is a graphic representation of the relations between a value standard and an identity dimension, and the relations between the self-attribute, aspired self-attribute, and ideal self-attribute. This would represent the entire self-identity structure for a hypothetical person with a self-identity consisting of a single identity dimension (primary subset, the attributes within which have a dimensionalized relation to one another). In that special case, the locations would be the self-identity, aspired self-identity, and ideal self-identity of that person.

[a] Self-attributes are represented here and have been discussed as discrete points. It is, perhaps, more accurate to conceive of them as ranges of bands of points. The width of this band varies inversely with the degree of differentiation of the dimension or, more generally, with the number of attributes in the primary subset. For one person a primary subset for height might contain only five attributes--very short, short, medium, tall, very tall; for another person height may contain fifty attributes differing by one inch intervals. The former primary subset is less differentiated, and each attribute covers a wider band.

[b] It is assumed that value standards and identity dimensions are associated, but that each can vary independently from the other. (Sherwood, 1963: 26)

ordinal scale strength an identity dimension was created. This concept type has been successfully operationalized and proved useful by Kasl and French (1962), Burke and Bennis (1961), Mannheim (1957) and Amatora (1965).

Sherwood (1963) also assigns the conceptual properties of content, evaluation, strength and coreness to a person's self attributes. These factors determine the value of one's self-identity structure as measured in the subsets. Self evaluation, then, is used here in a similar manner to other terms in the literature, e.g., self esteem (Cohen, 1959; Janis and Field, 1959; Coopersmith, 1959, 1967; Dittes, 1959a, 1959b), self evaluation (Amatora, 1955; Deutsch and Solomon, 1959; Gerard, 1961), self-adequacy (Combs and Soper, 1957) and self-regard (Cowen, 1956; Rogers, 1959).

In the development of his theory, Sherwood has utilized a concept of the self wherein it is differentiated into three component parts: self identity, aspired and ideal self identities. The concept of ideal-self has already been discussed in this paper, however, its operationalization needs some clarification. The ideal self identity is that totality of self attributes which a person would ideally like to impute to himself. The traditional operationalization of self evaluation has been that of using the discrepancy between the "real" and ideal self-identities (e.g., Butler and Haigh, 1954; Rogers and Dymond, 1954; Smith, 1958; Turner and Vanderlippe, 1958). Most of these researchers report on inverse relation between measures of adjustment and the "real-ideal" discrepancy. Although there was much support for Rogers' original idea of self concept and adjustment, many researchers have produced conflicting results.

Levy (1956) was not convinced of the relationship between adjustment and self concept discrepancy. Kornreich, Straka and Kane (1968), replicated Levy's study to show that self-image disparity is correlated with the way that a person sees the rest of the world. They found evidence to show that self image disparity is partially a measure of mood and partially a type of defence. They suggest that a variable referred to as "social competence" accounts for the rest of the variance. There have been other studies (Bieri and Lobeck, 1961; Wylie, 1961), on the effect of demographic and sociological variables on the self concept. There were definite differences between high and low socio-economic class, between Catholics and Jews, and also between sexes. Frank and Hiester (1967) found that no significant differences accrued for influences by sex. They concluded that the ideal self concept appears to be somewhat less stable (or reliable) over time than the self concept, and that ideal self-concept appears to be more greatly influenced by the factor of sex than self concept.

Worshell and McCormich (1963) state: "Investigations . . . have shown that high discrepancies between self and ideal generally indicate an insecure anxious and self-deprecating individual . . ." (p. 89). Persons with medium discrepancy seem best adjusted according to test results and their ability to maintain effective problem-solving behavior under threat. The reverse situation, wherein a person has a low self-ideal discrepancy, tends to indicate that individuals are maintaining a facade of adjustment using repressive defenses but with latent hostility.

Achenbach and Zigler (1963) and Katz and Zigler (1967) suggest that real self-ideal discrepancy is not related to adjustment but instead to maturity. They further caution investigators to be cognizant of developmental factors when interpreting self-image disparity findings and suggest that time be spent in studying how the psychodynamic factors interact with the developmental phenomena investigated. Sherwood in attempting to deal with these problems has included a third factor called the aspired self-identity. He viewed this as the goal to which the person realistically feels he can strive to attain. As an example, a person might admire as his ideal a famous outdoorsman like John Muir, but at the same time would choose an aspired goal of Park Warden, toward which he would strive. Sherwood's notion is based on the assumption that a more valid degree of self-attribute evaluation can be measured by the discrepancy between the self-attribute and the aspired self-attribute. Only three studies are available at this time utilizing these factors (Kay, 1961; Sherwood, 1963; and Scott, 1973). In the present experimenter's research the ideal-self was used to develop the test instrument, while the real-aspired-self will be used to test the experimental group.

A Review of Sherwood's Instrumentation and Scale Development

The instrument used by Sherwood (1963) was basically of a questionnaire format. Each questionnaire consisted of 26 bipolar eleven-point adjective rating scales. The literature was reviewed for adjectives commonly used in the description of self and others. Items from Osgood's Semantic Differential (1957), Carter (1954), Edelson and Jones (1954), Schutz (1958), Fiedler (1961), Bieri and Lobeck (1961), Burke and Bennis (1961), and other adjectives which intuitively appeared to be relevant to the T-group process, were finally selected. Those adjectival scales judged to be commensurate with the theoretical language of the study were referred to as dimensions or self-identity dimensions.

The dimensions chosen were divided into three groups: (a) ten dimensions, which, on a priori basis, appeared likely to be the most relevant to the T-group process and on which there would consequently be a higher probability of changes in self-perceptions during the training period. These ten dimensions were: sensitive-insensitive to others, critical-tolerant of others, skillful-awkward with others, reserved-talkative with others, value myself high-low, participant-nonparticipant, active-passive, incisive-lack insight about myself, follower-leader and hostile-affectionate. (b) Four dimensions, honest-dishonest, moral-immoral, intelligent-unintelligent, and liberal-conservative, were included because they intuitively appeared to be irrelevant to human relations training; and, therefore, self-perceptions on these dimensions would probably be least subject to change (Sherwood 1962). (c) The remaining twelve dimensions were felt to be somewhere between groups (a) and (b) in terms of the probability of changes in self perceptions over the training period. They were: self-confidence-lack of self-confidence, authoritarian-democratic, competent-incompetent, likeable-not likeable, competitive-co-operative, timid-bold, individualistic-conformist, tense-relaxed, unfair-fair, friendly-unfriendly, independent-dependent, and aggressive-non-aggressive.

The order of presentation of these 26 dimensions and the arrangement of each pair was randomly determined. No control over the social desirability of the items was attempted since this study dealt with the relationship between responses to the same items in the perceptions of different phenomena (self identity, subjective public identity, and objective public identity) and at different points in time. Since the person was the unit of analysis, each person served as his own control for social desirability and for individual differences.

In order to measure probability of honesty in self-description and evaluation, each questionnaire was kept anonymous.

The self identity (SI) questionnaire consisted of the 26 dimensions mentioned above, plus three unlabeled dimensions which the subject was instructed to label with three "characteristics which are important to your picture of yourself and which were not included in those previously mentioned". The data from these latter three scales was not analyzed, since the responses were not consistent from the first to the second administration of the questionnaire. In addition, this part of the questionnaire was frequently omitted by some students.

The subjects were instructed to respond to the questionnaire "as if you were only giving answers to yourself . . . not somebody else". They were also cautioned against presenting a picture of themselves as they represent themselves to others or as they think other people see them but rather to respond as to how they really saw themselves.

The subjects were instructed that these characteristics were used by some people to describe themselves and they were to indicate the location on the scale where they presently pictured themselves. This constituted the operationalization of the person's self-attributes on that dimension of his self identity.

In addition, subjects were instructed to "indicate the location on the scale where you aspire to picture yourself . . . not the ideal, but rather the picture to which you think you can actually reach in the future". The totality of the responses from the attributes provided the person's aspired self-identity.

In order to provide a limit of freedom to the subjects, they were informed that if an attribute was not part of their self-picture they could check a space provided directly beneath each scale. Most subjects used this alternative at least once.

The coreness of the self attributes were measured by having the subjects rate each dimension on a scale from 10 ("extremely important to my total self-evaluation"), to 0 ("extremely unimportant . . ."), according to the criteria: "If I were suddenly to find myself as being closer to the end of the scale which is less desirable to me . . . how much would this one characteristic lower my total evaluation of myself?"

This operation for coreness was based on the conceptual definition that has been called centrality by French and Kahn (1962) and Kas and French (1962), and it involves the degree to which a change in a self attribute tends to change the subject's self-evaluation or the relative importance of a self attribute for self-evaluation.

Self Evaluation (SE) was measured in two ways: (a) the last item of the questionnaire was a ten point scale on which the subject was instructed to indicate his present evaluation of his total picture of himself; (b) the inverse of the discrepancy between the location of the self-attribute relative to the aspired self-attribute weighted by the coreness of that self-attribute was the measure of each self-attribute evaluation. The mean of all self-attribute evaluations was the second measure of total self-evaluation. These two measures were found to correlate .61 (N = 135). This represented a moderate low but significant measure of convergent validity between these two measures of the same concept.

The Subjective Public Identity (SPI) measure consisted of the SI questionnaire with altered instructions: i.e., "indicate the location on the scale where you think the T-group presently pictures you".

The perceived salience of each dimension for the "T" group was measured analogously to coreness for the person on the SI measure. The mean ratings by all group members constituted the salience of that dimension for the group.

Subjective Public Evaluation (SPE) was measured in two ways: (a) analogously to the rating scale measure of self-evaluation--i.e., by subject response on a single eleven-point scale; and (b) the mean value of the location of the subjective public attributes, weighed by the perceived salience of each dimension for the group. These two measures correlated .43 (N-68), a low but significant measure of convergent validity.

The next item on the questionnaire was a sociometric rating of all members of an individual T-group. The subject's first two friendship choices were defined as his referent public and his last two choices as his non-referent public.

The measure of objective public identity consisted of the 26 dimensions of the SI questionnaire on which the subjects were instructed to indicate their perceptions of each of the members of their T-group. They responded to each dimension across all group members before proceeding on to the next dimension.

Objective Public Evaluation (OPE) was measured in two ways: (a) analogously to the rating scale measurer SE--i.e., by the mean value the other group members' ratings of the subject's on single eleven-point scales; and (b) the mean value of the locations of the objective public attributes, weighed by the mean salience of each dimension for the group. The measures correlated .54 (N-68). Again this represented a low but significant measure of convergent validity.

Validity. There was no independent validation of the instrument used in the research. However, one aspect of the validity of an instrument is the degree to which empirical predictions, based on the theory from which the instrument was derived, are supported. The degree to which predictions in this research were found to be confirmed provided some evidence of the construed validity of both the theoretical model and the instruments by which it was operationalized.

Reliability. The reliability of the instrument was conducted over a two-week interval and was determined by a test-retest method with 57 introductory psychology students not connected with the research. The mean reliabilities on each person's score for the 22 dimensions at two correlations are given in Table 1 which also includes test-retest reliability (correlation between time 1 and time 2) on self-identity instrument for 68 subjects who were given the treatment effect.

The table indicates that the stability for all variables given was higher for the psychology students over a two-week interval than it was for the subjects treated. In no case were the differences statistically significant.

Table 1

Mean Reliability Coefficients for Self-Identity and Self-Evaluation Measures for Experimental and Control Groups

Measure	Experimental	Control
Aspired self-identity	.62	.84
Self-identity	.61	.82
Coreness	.55	.78
Self-evaluation discrepancy measure	.47	.75
Self-evaluation rating scale	.56	.78

In summary the present investigator has used the Sherwood conceptual framework and inventory model as the base for the construction of his inventory. The intention was to develop an inventory that will adequately assess the self using items that are more specifically oriented to the outdoors and its competency variables.

Definition of Terms Applicable to the Outdoor Inventory

Self identity attribute. An ability, skill or characteristic perceived by the person (P) and assigned to himself, the perceiver.

These are operationalized as a self-identity dimension on a linear, 11 point bipolar scale.

A primary subset. Defined from the view of the perceiver and is a subset of person attributes such that one and only one attribute can be assigned to the perceiver or to another at one time, i.e., paddling, portaging, gunneling.

Sub identity. In Sherwood's research sub identity referred to a set of self attributes which are used to define the self in a social role or situation. In the Gibson Outdoorsman Inventory this concept is also applicable to the constellation of attributes that make up a FACTOR.

Outdoor Factor. That constellation of attributes that cluster around one area of experience in the outdoors.

Factor subscale. Attributes when placed together show that they are consistent in their relationships in identifying one area in outdoorsman self (an identifiable sub self).

Total self identity (TSI). Total self refers to the composite set of subselves and person attributes that a person uses in defining or perceiving himself as a total person. It is the totality of P's self attributes at a given point in time.

Self attribute evaluation (SE). The person's evaluation of himself on a self identity attribute dimension. It is the quantity of an attribute a person is seen by himself to possess.

Total self evaluation (TSE). The person's total self assessment at a given point in time. This is related to the summation of his self-attribute evaluation.

Importance of self attribute. The coreness or centrality of a self attribute to a sub identity, e.g., paddling skill to the canoeist or diagonal stride to X-country skiing.

Salience of a personal attribute. The extent to which group or team members use the person attribute in identifying and differentiating between persons and is based on the attribute's usefulness to team functions, e.g., paddling ability in shooting rapids in a canoe.

Aspired (or attempted) self-identity (ASI). That set and level of self-attributes which the person perceives himself to be realistically striving to achieve.

Objective public identity (OPI). The actual perceptions of the person by referent others.

Subjective public identity (SPI). The person's perceptions of how referent others see him, i.e., his objective public identity.

Objective public evaluation (OPE). The evaluation by referent others of the person's objective public identity.

Subjective public evaluation (SPE). The person's perception of his objective public identity, i.e., how he sees referent others evaluating him.

Performance attributes (PA). A class of self attributes based on the behavior or performed skills of the person, e.g., constructing a shelter in the outdoors.

Self fulfillment (SF). The reduction of the discrepancy between self-evaluation and aspired-self on a self attribute dimension.

Self attribute usage (SAU). The frequency and extent to which a self attribute, e.g., paddling skill is used.

II. OUTDOOR SELF INSTRUMENT DEVELOPMENT

Construct Validity

In the search for construct validity the questions that needed an answer were, "After having taught outdoor education to a great number of students at the University of Alberta, what was the self-identity image that these students perceived when they were in the outdoorsman role? Which of these many areas that instructors had taught, emphasized and lived would be focused in the students' minds as attributes worthy of their outdoor ideal?" The initial step sought this type of descriptive input from key instructors in Alberta in the field of Outdoor Education. The instructors consulted were W. D. Smith, L. L. Lanier, H. A. Scott and Douglas Cowan from the University of Alberta, Bill Brezneham from the Northern Alberta Institute of Technology and Mors Kochanski from the Blue Lake Outdoor Centre at Hinton, Alberta. From this survey the investigator compiled 110 outdoor attributes that appeared to encompass an outdoorsman in Alberta (Appendix C). In this compilation, five identity attributes were included from the Sherwood Scale since they contained those aspects of man's character that are universal for living with people in the technological as well as the outdoor environment.

In order to assess the instrument's clarity and to generally "debug" it, a trial inventory was constructed (Appendix A) with 94 identity attributes in the bipolar adjective pattern of Sherwood. The respondents were asked to score the inventory by placing a 0 to indicate their ideal and an X to mark their present picture of themselves along a marked continuum for each pair of polar adjectives. They were also required to fill out personal data as to age, sex, outdoor experience, camping experience and why they were taking the P.E. 389* course in case

. . . .

*P.E. 389 - Introductory Course in Outdoor Education.

this material might be of value to the study. The trial inventory was given to 36 students who had just completed an advanced course in Outdoor Education, from Dr. W. D. Smith and the investigator. The students were requested to note any problems in the inventory and to be free to ask questions for an explanation of directions or the meaning of the outdoor attributes.

It was found that more precise instructions would have to be available to the subjects and that there was a need for the use of computer scanner sheets for the subjects' responses. These special sheets containing two continuums were constructed and were used in subsequent use of the inventory (Appendix B). Some of the identity attributes were modified to correspond more precisely to the students' understanding of the words. More than one word often had to be used to provide the right mental construct for the trial testees.

The information obtained from this trial administration of the inventory was then used in the development of the major inventory (II) of 110 attributes (Appendix C) in the bipolar adjective rating scale form. The subjects were requested to respond to each attribute dimension as follows: "Answer as if you were giving the answers to yourself, not to somebody else. We are not interested in how you represent yourself to other people. We are not interested in how you think other people see you, only how you see yourself in relation to this setting."

They were also instructed that if the attribute was not part of their picture of themselves to place their response in a separate category.

This inventory was administered to students, who had already completed one or two courses in Outdoor Education from the instructors from whom the identity characteristics were originally obtained. It was assumed that those attributes that had become most meaningful in the students' experience in the outdoor scene would be those that they particularly identified as describing their ideal self image of an outdoorsman. From their assessment we could then choose more meaningful adjectives to place on the final test inventory. The inventory was administered to four groups: P.E. 389 (N = 24), Introductory course in Outdoor Education; P.E. 353 (N = 35), Advanced course in Outdoor Education; Recreation 255 (N = 38), Introductory course in Outdoor Recreation; Northern Alberta Institute of Technology (N = 16), Course in Outdoor Technical Services. The respondents were of both sexes and ranged in age from 18 to 35 years.

Content Validity

The most radical departure from Sherwood's instrumentation was in the area of content validity.

The validity of a test or measuring instrument depends upon the fidelity with which it measures what it purports to measure (Garrett, 1962: 355). In this investigation the first step was taken by obtaining the items from the team of experts. This procedure was further enhanced by giving the pre test to 113 subjects all of whom had had experience in the field under the instructors questioned. This was done on the assumption that in terms of self-descriptive responses those item attributes chosen by the students should reflect accurately what the students really perceived as the ideal attributes of an outdoorsman. Thus the ideal Alberta outdoorsman would be arrived at via an inductive approach.

Criteria Used to Choose Viable Attributes

1. Attributes chosen as IDEAL would be those that the subjects scored highly toward the positive end of the dimension. As an example it was

considered that Aware in Nature was positive while Unaware in Nature was negative. Attributes then with a high loading toward the positive end of the dimension on the ideal and a low S.D. were chosen.

2. Items that had strong loadings on both positive and negative ends of the dimension were discarded as inappropriate for the test model. As an example, "hunter versus nonhunter" brought a sharply divided response amongst the students tested.

3. Since the Sherwood (1963) and Rogers (1959) bipolar scales are based upon using the discrepancy ratings between the Ideal (O) and the Real (X), there must be an initial difference that would provide an opportunity for change within the limits of the dimension. Attributes where the real-self (X) responses were all loaded to the positive end of the dimension producing a D close to 0 were discarded.

4. When responses for real-self (X) were more positive than ideal-self (O) producing a negative score, the attribute was discarded (O-X=-D) eg. Perseverance: 4.438-5.619 = -1.181

5. Frequency response for the real-self (X) was to follow a dispersion throughout the dimension with an increased loading toward the positive end of the scale. This decision was based on the assumption that persons having taken outdoor courses should have a greater loading toward the positive end of the continuum.

Using the preceding criteria the data was scanned and the number of attributes not meeting the standards in the frequency distribution were dropped. This reduced the number of attributes to 80 which was considered more manageable for factor analysis.

A small number of attributes were kept and included in the 80 that were to be factor analyzed that did not completely fit the criteria but were judged to be the only ones that pertained to some of the core characteristics of an outdoorsman as defined by the panel of expert judges. These are as follows: Awareness of Nature, Outdoorsman, Capable with Map and Compass, Outdoor Cook, Have good sense of Humor, Insight into Danger, Well Prepared, Imaginative in Problem Solving and Observant in Nature. Wylie (1961) commenting on test construction states that item selection for any instrument designed to measure a construct must be based on the researchers (or others) expert judgments about the characteristics and scope of the construct . . . a minimum requirement should be that the construct be defined implicitly enough so that experts can agree on whether or not items are samples of the concept. It was assumed that the attributes kept would be further rejected in the factor analytic process or would be found to improve in quality.

Factor Analysis

It was decided to investigate whether these attributes would cluster around a small number of Factors in order to more efficiently deal with the data in the study. The data was submitted to a series of procedures:

1. Using the ideal scores of the subjects the attributes were subjected to a Principal Component Solution (Gorsuch, 1974: 90) where the ideal self is computed in terms of the total variance. This solution did not produce any viable factors.

2. Common Factor Analysis was then applied to the 80 attributes. After the first run the commonality was scrutinized and those with a low rating were eliminated. This procedure then reduced the number of attributes to 65 items. The attributes were factored again using the principle factor with iterations. The eigenvalues were scrutinized, and it was decided to work initially with 23 factors which would then be reduced. This process was initiated.

3. The number of factors were again reduced through Varimax Rotated Factor Matrix. This eliminated one-fifth of the variable strength but tended to increase the loading on the reduced factors. The rotation tended to preserve the variation in the size of the factors. It was also found that by reducing the number of factors from 13 to 5 created no great loss.

4. The data was then rotated through three sequences:
    a. varimax
    b. equimax
    c. oblique rotation with four dimensions.

The results of the rotations produced a series of differing combinations of attributes for each factor. Since the varimax rotation produced the more meaningful combinations of attributes within the five factors (Table 2), it was chosen as the application for this inventory. In Factor 1, such attributes as nature and ecology tied together, while in Factor 2 such attributes as survival expert, outdoor cook, white water canoeist appeared to have a common response. Factor 3 pulled together attributes related to a leader of people outdoors while Factor 4 was composed of three attributes depicting some sort of overall outdoorsman.

The procedure used to reduce the number of attributes in the inventory to the number eventually decided upon was based on the following criteria:

1. The factor loadings were predicated with the first reliability ratings obtained from the test-retest inventory (Table 4, p. 54).
2. Attributes that appeared to connote the same meaning as others in the inventory and had a low factor loading were dropped.
3. Attributes that were considered essential to the outdoorsman image that had no replacement and were defined by the panel

of judges as essential were kept.

In all instances the attributes that had the best factor loadings and reliability ratings were kept if in the opinion of the judges they fitted the theoretical framework of the inventory. The committee of outdoor specialists, H. Scott, G. Glassford and W. D. Smith, from the University of Alberta, D. Larson from Camrose Lutheran College and the investigator concurred with the subselves that had emerged from the theory and from the Factor analysis technique. The first subself in the outdoor ideal would be the person who has a sensitivity to nature as well as other people. This sensory awareness outdoorsman is one who is sensitive to or in tune with others and nature. The second subself that is marked in the outdoor scene is the skilled outdoorsman who is capable of coping in the environment without others. The third subself would be the person who had interpersonal or people characteristics that could be found in an outdoor leader, while the last factor revealed an overall outdoorsman image. It was concluded that since the factor loadings did not completely define the subselves as predicted the results of the first treatment group for the ideal post scores would be processed to ascertain what attribute constellations would accrue with 22 attribute correlations rather than with 65. In addition, this data was factored with four as well as five factors to arrive at the best loadings. When this was done it was found that a small number of attributes moved to more clearly define the factors. (Table 3). In Factor 1 three attributes remained the same while four attributes changed their focus defining the sensory-awareness outdoorsman even more clearly. Factor 2 kept three attributes and took on four more attributes making the skilled outdoorsman a strong factor with No. 14--Have a good sense of humour--and No. 18--Affectionate to

Table 2(a)

Comparison of Ideal Attributes as to Factor Loadings and Test Retest Reliability Ratings

FACTOR I

No.	Attribute	Factor Loading	Next Highest Factor Loading	Test Retest Reliability	Probability 1-Tail
13	Co-operating with Nature	.57	.19	.610	.001
19	Self-Discipline	.68	.14	.138	.255
33	Feel at home in Nature	.65	.15	.635	.001
41	Self-confident	.52	.18	.780	.001*
47	Sensitive toward Nature	.60	.05	.701	.001*
49	Ecological Defender	.62	.00	.885	.001*
71	Wide knowledge of Nature	.70	.08	.849	.001*
81	Efficient worker	.83	.18	.435	.051
83	Wilderness explorer	.71	.24	.401	.023
85	Can endure pain	.62	.30	.460	.014
97	Steady	.67	.26	.669	.001
109	Unafraid of being alone	.58	.07	.335	.051
117	Patient	.71	.18	.857	.001*
123	Good Physical Endurance	.56	.34	.910	.001*
129	Read animal signs	.61	.24	.746	.001

The items chosen were those with the asterisk beside them. The other items were discarded on the basis that they did not have as strong overall loading or they had a lower reliability level. In addition if the attribute did not completely fit the overall ideal image it was discarded.

Table 2(b)

FACTOR 2

No.	Attribute	Factor Loading	Next Highest Factor Loading	Test Retest Reliability	Probability 1-Tail
63	Capable Orienteer	.50	.13	.814	.001*
65	White Water Canoeist	.57	.08	.131	.290*
67	Survival Expert	.59	.06	.905	.001*
75	Capable with Map and Compass	.53	.00	.220	.157
101	Outdoor Cook	.59	.31	.527	.003*
111	Good Sense of Humour	.55	.17	.679	.001*
127	Insight into Danger	.58	.00	.748	.001*
151	Skillful with Others	.62	.17	.651	.001*
155	Value Self High	.45	.05	.656	.001*
159	Competent with Others	.66	.00	.410	.023
191	Well Prepared	.54	.20	.415	.022
193	Imaginative in solving problems	.63	.02	.303	.071
195	Observant in Nature	.63	.11	.664	.001
205	Ingenuity in Using Natural Resources	.57	.22	.333	.056
207	Open with Others	.48	.06	.646	.001*

Table 2(c)

FACTOR 3

No.	Attribute	Factor Loading	Next Highest Factor Loading	Test Retest Reliability	Probability 1-Tail
7	Leader in the Outdoors	.46	.14	.357	.043
69	Mountain Tripper	.44	.35	.357	.047
9	Alert in Wilderness	.43	.40	.894	.001
171	Insight about Self	.50	.47	.846	.001*
173	Bold	.49	.26	.045	.415
179	Relaxed	.61	.48	.861	.001*
177	Affectionate to Others	.40	.43	.707	.001*
181	Fair	.68	.39	.712	.001*

Table 2(d)

FACTOR 4

No.	Attribute	Factor Loading	Next Highest Factor Loading	Test Retest Reliability	Probability 1-Tail
1	Aware in Nature	.54	.05	.811	.001*
3	Skillful in Outdoors	.48	.24	.651	.001*
5	Competent Outdoorsman	.54	.18	.955	.001*
17	Perseverance	.38	.10	.482	.007
57	Attentive to Nature Signs	.38	.34	.615	.001

others--, not quite fitting the theoretical focus. Factor 3 --Outdoor Group Leader--was completely reorganized around three new attributes. The same situation occurred for Factor 4 which the investigator termed Outdoor Sportsman which defines those types of people who concentrate on the sport of white water canoeing and orienteering.

Test-Retest Reliability

The inventory (Appendix D) was prepared containing 44 attribute dimensions. The directives concerning how to score the inventory were modified and samples of how to transfer one's responses to the computer cards were included on page two. The attributes for the test began on page three in order to eliminate the use of the first attribute by the subject as a response sample thus creating a possible "set" toward how subjects should score such an attribute.

The inventory was given to 30 Education students taking an inter-session course in Growth and Development at the University of Alberta. The pre-test was given two weeks prior to the post-test (May 17, 1973). Due to poor attendance at the post-test only 25 respondents completed the inventory. Pearsons correlation was applied to the mean of differences for the Ideal, the Real and the Discrepancy Change.

$(Pre_1(I) - Post_2(I) - (Pre_1(R) - Post_2(R)) = \text{Discrepancy Score}$

$$\bar{X}^{D}_1 - \bar{X}^{D}_2 = \bar{X}^{D}$$

Those attributes that met the significant criteria .001 and those that had a strong correlation were kept for the scale. However although several of the items did not have a good test-retest reliability they were still kept due to the fact that there were no more attributes that were in the inventory that related to a core activity e.g., canoeing. In addition it was found that an attribute like "perseverance" scored low

Table 3(a)

Varimax Rotation

FACTOR I

SENSORY-AWARENESS OUTDOORSMAN

No.	Attribute	Factor Loading	Next Highest	Related Factor
1	Aware in Nature	.74	.50	II
1	Self-confident	.57	.07	
4	Sensitive Toward Nature	.71	.29	
7	Fair	.70	.55	III
13	Have Insight Into Self	.86	.26	
16	Relaxed	.66	.41	II
17	Patient	.82	.18	

Table 3(b)

FACTOR 2

SKILLED OUTDOORSMAN

No.	Attribute	Factor Loading	Next Highest	Related Factor
5	Skillful in Outdoors	.78	.30	IV
9	Wide Knowledge of Nature	.68	.55	I
10	Survival Expert	.85	.29	
11	Competent Outdoorsman	.73	.35	IV
12	Outdoor Cook	.75	.26	
14	Have Good Sense of Humour	.43	.19	
18	Affectionate to Others	.53	.29	

Table 3(c)

FACTOR 3

OUTDOOR GROUP LEADER

No.	Attribute	Factor Loading	Next Highest	Related Factor
15	Insight into Danger	.59	.54	II
20	Skillful with Others	.74	.41	
21	Value Self High	.80	.18	
22	Open with Others	.68	.33	
6	Ecological Defender	.37	.35	

Table 3(d)

FACTOR 4

OUTDOOR SPORTSMAN

No.	Attribute	Factor Loading	Next Highest	Related Factor
3	Capable Orienteer	.79	.45	II
8	Whitewater Canoeist	.85	.26	
19	Good Physical Endurance	.38	.26	

and was rejected initially but after the test was administered to two of the subsequent case groups the subjects named this attribute of major significance to their experience and as such it could have been included for the last three groups. However although Fair, White water canoeist, and Outdoor cook did not have good test-retest reliability they were still kept due to the fact that there were no more attributes that were in the inventory that related to that core activity or value.

The results of this reliability test were capitalized on initially to make choices as indicated as to the attributes that would be left in the Factors. This was done and at a later date to confirm the test-retest reliability of the attributes a second sample of 80 first year college students taking an Introductory Course in Psychology were tested. They were then given the test again 10 days later and the results tabulated in Appendix E.

The structure of the ideal-real-discrepancy type of evaluative instrument as programmed for this inventory created an ideal dimension that had little variance. This is evident if one refers to Appendix E and observes that in assessing the change in the raw scores one finds the ideal reliability quotient was lower in every case than that of the real with the exclusion of 16, 17, 18, yet the difference between T_1 and T_2 is correspondingly smaller for Ideal than Real from T_1 to T_2 in every case. The spread in the means for the Ideal was a high of 9.52 and a low of 7.12 with an average mean of 8.94. The S. D. had a high of 2.68 and a low of .97 with an average of 1.68 indicating that 50% of the responses were between 8.94 and 10 on the dimension while three S. D. in the other extremity would leave the outermost extremity being 3.85 producing a negatively skewed curve. This evidence confirmed that

Table 4

TEST RE-TEST RELIABILITY

For Attributes Chosen

	Ideal-D	Prob. 1-Tail	Real D	Prob. 1-Tail	D.D.	Prob. 1-Tail
1. Aware of Nature	.811	.001	.678	.001	.823	.001
2. Self Confident	.780	.001	.766	.001	.872	.001
3. Capable Orienteer in the wilderness	.880	.001	.840	.001	.814	.001
4. Sensitive toward nature	.701	.001	.706	.001	.624	.001
5. Skillful in the Outdoors	.651	.001	.761	.001	.848	.001
6. Ecological Defender	.885	.001	.549	.002	.775	.001
7. Fair	.712	.001	.467	.009	.399	.024*
8. White water Canoeist	.131	.290	.718	.001	.360	.071*
9. Wide knowledge about nature	.849	.001	.637	.001	.749	.001
10. Survival Expert	.905	.001	.718	.001	.941	.001
11. Competent Outdoorsman	.955	.001	.461	.012	.877	.001
12. Outdoor Cook	.527	.003	.532	.004	.686	.003*
13. Have insight about myself	.845	.001	.703	.001	.831	.001
14. Have good sense of Humour	.679	.001	.631	.001	.451	.012
15. Have insight into Danger	.748	.001	.613	.001	.610	.001
16. Relaxed	.861	.001	.670	.001	.793	.001
17. Patient	.857	.001	.837	.001	.736	.001
18. Affectionate to Others	.707	.001	.812	.001	.710	.001
19. Good Physical Endurance	.910	.001	.671	.001	.785	.001
20. Skillful with Others in a Group	.718	.001	.731	.001	.574	.001
21. Value Myself High	.656	.001	.852	.001	.686	.001
22. Open with Others	.646	.001	.729	.001	.631	.001

the fact the investigator had taken steps to define what was the most positive end of the dimension, coupled with the fact that most Canadians, even though they may not be able to perform well themselves, tend to admire those who are competent in the outdoors, produced an Ideal response on both T_1 and T_2 that approached absolute. This effect reduced the attribute variance to a point where a correlation co-efficient or T test result gave an inaccurate picture of the change occurring from T_1 to T_2.

On this observation it was decided that to use the subjects ideal to find a discrepancy score would only increase the chance error in the results. The information obtained from the T-test on the second reliability test group can be considered as valuable information but should not be given undue weight as to the value of the real reliability of the scale.

The next step was to give all aspired-ideals a value of 11 and to score the (R) real responses in relationship to that absolute. In order to provide an adequate measure for the inventory it was decided first to arrive at a level of internal consistency for each subscale. The Alpha test of Generalized Internal Consistency as developed by Cronbach and Gleser (1965) was applied to the T_2 responses of the 96 subjects taking the treatment in the case studies. To initiate this course of action the fractional weights used in Factor Analysis allowing attribute scores to show up on more than one Factor were now weighted equally to compute Subscale Scores. In addition this was also done to simplify calculations with the realization that due to the relatively small sample size the differential weights identified would not necessarily hold up under cross validation.

The process applied verifies whether or not attributes that had been previously chosen were consistent in their relationship justifying adding attribute scores together to come up with sub-scale scores. The procedure was to deduct or add attributes from the scale correlation to arrive at the highest Alpha score. The Alpha provides information on the basis that if the particular attribute was extracted the total Alpha score would change to that of the attribute extracted. It allowed for a certain freedom to eliminate weak attributes particularly if they did not fit the subscale definition such as Sensory Awareness Outdoorsman, Skilled Outdoorsman, Group Leader or Outdoor Sportsman. The results of this application are found in Table 5.

Table 5(a)

THE RESULTS FROM THE ALPHA INTERNAL RELIABILITY TEST

FACTOR I

Sensory-Awareness Outdoorsman

No.	Attribute	Alpha if Item Deleted
1.	Aware in Nature	.829
2.	Self Confident	.845
4.	Sensitive to Nature	.841
7.	Fair	.820
13.	Have Insight Into Self	.820
16.	Relaxed	.810
17.	Patient	.828

ALPHA COEFFICIENT = .850

It can be observed that all attributes contributed significantly to the subscale, each having an Alpha below .849 . Therefore, to eliminate any attribute would not help the internal consistency of the subscale.

Table 5(b)

FACTOR 2

Skilled Outdoorsman

No.	Attribute	Alpha if Item Deleted
5	Skillful in Outdoors	.846
9	Wide Knowledge of Nature	.862
10	Survival Expert	.848
11	Competent Outdoorsman	.842
12	Outdoor Cook	.905

ALPHA COEFFICIENT = .885

The Alpha could have been improved somewhat by excluding Outdoor Cook, however it had a strong Factor Analysis rating of .78 and was an integral part of the Skilled Outdoorsman construct. The attributes, Have Good Sense of Humour and Affectionate to Others, were dropped from the subscale in that they detracted from the former Alpha strength of the scale, (.875) had a low Factor Analysis rating of .55, .40 and did not appear to represent a core aspect of the skilled dimension of Outdoorsman.

Table 5(c)

FACTOR 3

Outdoor Group Leader

No.	Attribute	Alpha if Item Deleted
15	Insight into Danger	.785
20	Skillful with Others	.739
21	Value Self High	.773
22	Open with Others	.785
6	Ecological Defender	.806
	ALPHA COEFFICIENT = .814	

It was decided to include attribute No. 6, Ecological Defender, with this subscale since in the Factor Analysis its functional weight was evenly divided between Subscale 1 and 3 (Table 3). Assessment of the Alpha indicates that it is higher than the other coefficients but not that high to afford any improvement in the scale if removed. It fits the theoretical framework of the Outdoor Group Leader in that we see this defined as one of his necessary attributes while leading others in the environment.

Table 5(d)

FACTOR 4

Outdoor Sportsman

No.	Attribute	Alpha if Item Deleted
3	Capable Orienteer	.599
8	White water Canoeist	.548
19	Good Physical Endurance	.704
	ALPHA COEFFICIENT = .714	

As can be seen from the Alpha Coefficient Nos. 3 and 8 are the most central attributes to the subscale while No. 19 contributes to a lesser degree.

The Alpha's on all four subscales are sufficient to move forward with confidence that the attributes in each dimension are focused on the same area as defined by the subscale.

Difference Between Factors/Subscales

Observation of the factors in Table 3 (p. 51-52) will show that each of the attributes when processed in terms of fractional weights had varying parts of the attribute strength divided between two factors. In the theoretical move to make the numbers whole for subscale analysis there was still real weight left on each factor that must be assessed. This problem was resolved by committing the subscales to correlation analysis. The results, as seen on Table 6 (p. 60) show that there is a tendency to be high yet not so high that we cannot assert that something different is being measured in each scale. Subscale 3--Outdoor Group Leader and Subscale 2--Skilled Outdoorsman have the highest correlation while Subscale

4--Outdoor Sportsman and Subscale 1--Sensory Awareness Outdoorsman have the lowest score values.

Table 6

COMPARISON OF THE DISCRIMINATING QUALITY OF THE SUBSCALES USING PEARSONS COEFFICIENT

		Scale 1	Scale 2	Scale 3	Scale 4
Scale 1	Sensory Awareness Outdoorsman		.778	.799	.659
Scale 2	Skilled Outdoorsman	.778		.803	.776
Scale 3	Outdoor Group Leader	.799	.803		.661
Scale 4	Outdoor Sportsman	.659	.776	.667	

Subscale Test-Retest Reliability

Having substantiated the Internal Consistency (Reliability) from the Alpha as reasonably high for each subscale, and established that the areas they are measuring are somewhat unique but not completely different, the next step was to arrive at a test-retest reliability measurement for the control group (Group F) in terms of scale scores.

Group F refers to the last group of 94 students from Camrose Lutheran College who were used for the second test-retest reliability check (p. 53).

The T-test was applied to the data to establish the correlation between the subjects from T_1 to T_2 on each of the subscales. It was found that even though the correlation coefficient for Subscale 2--Skilled Outdoorsman, was .880 the T value is 5.49 significant at the .000 level. Since this revealed a significant change on the part of the subjects it was decided to use the control for comparison.

Table 7

VERIFICATION FOR SIGNIFICANT DIFFERENCES IN RESPONSE BY CONTROL GROUP F FROM T_1 TO T_2 ON SUBSCALES

Variable	No. of Subjects	Mean	Standard Deviation	Diff. Mean	Standard Deviation	Corr.	Prob. 1-Tail	T-Value	Prob. 2-Tail
Pre-Test 1	75	47.60	8.13	.64	4.85	.811	.00	1.14	.13
Post-Test 1		48.24	7.57						
Pre-Test 2	77	27.13	8.84	2.71	4.34	.880	.00	5.49	.00
Post-Test 2		29.84	8.85						
Pre-Test 3	76	33.16	6.16	.48	4.14	.785	.00	1.03	.15
Post-Test 3		33.64	6.44						
Pre-Test 4	69	14.70	5.18	.66	3.37	.820	.00	1.54	.06
Post-Test 4		15.32	5.84						

Control Group: In order to make reliable predictions it was decided to use the (F) group as a control for the study. Therefore before a case study score will be assertained as reliable it will be compared with the score of the control group for each subscale.

Total Assessment of Final Inventory

The evaluation of the performance of the inventory will be better assessed when the results are tabulated. Suffice it to say that all the proper procedures that could have been used to arrive at an instrument for a select population have been used. In retrospect one could perhaps say that too many of these procedures were used. The procedure in psychometrics of placing the positive end of the bipolar scale on alternate ends only tended to confuse students in their response. The transfer of information from the inventory to scanner sheets without using numbers on the blanks caused some confusion. It is recommended that this be changed if the inventory is used in other situations particularly if used with large groups.

A check was made on whether the attributes used encompassed the experience of the students. Of the terms provided there were three that were needed to complete the subject's outdoor image during this type of treatment. The terms were "good swimmer," "perseverance," "calm in an emergency". It is of interest to note that the "perseverance" had been a term that had a poor validity rating by the criteria used and had been previously rejected in the item analysis due to the real response being greater than the Ideal. (Ideal = 4.7381, Real = 5.6190). In scrutinizing the frequency distribution there was a tendency to give a greater score toward the middle rather than toward the positive end on the ideal rating (8 = 25, 7 = 8, 6 = 3, 5 = 2, 4 = 76, 3 = 2, 2 = 1, 0 = 7).

In assessing why the response on the frequency was bipolar, it was considered that the initial 113 subjects tested did not have a real perseverance experience in their outdoor courses whereas the subjects in this investigation did have endurance treks in the outdoors that required this attribute. In addition, the experiences of the subjects in the case studies signified that since canoeing was a prime activity where all the subjects had to simulate a rescue operation in 34°F water, swimming ability was a core attribute. The same assumption can be held for calm in an emergency where emergency simulations were built into the course.

In attempting to arrive at internal validity the investigator used the opinions of experts in the outdoor field and the response of their students to the programmed experience. In addition, the material was systematically exposed to a modified item analysis and then the four different processes in factor analysis, simple factor analysis, Varimax with iterations, Varimax Rotation Factor Matrix, Equimax and Rotation using Kaiser Normalization. The attributes that had the highest commonality rating and also met the criteria for an outdoorsman image as defined by the judges were selected. These attributes consolidated themselves in five Factors. After the test instrument was given to the first test group the twenty-two attributes were again put through the Varimax Rotation Factor Matrix and the Varimax with iterations process. The Varimax Rotation Factor Matrix produced the greatest number of consistency constellations in each factor. The factors were reduced to four and were named. Two test groups were used to establish test-retest reliability and it was found that the Ideal-Real discrepancy scale structure reduced the attribute variance to such limited boundaries that the T-test correlation co-efficient did not provide a true picture of the attribute reliability rating. The fractional numbers used in Factor Analysis were converted to whole numbers to simplify computation, and enable the items within each Factor to have equal weight. This allowed for an Internal reliability check using the Alpha Factor Process. It was found that all subscales (Factors) had a high internal reliability coefficient and could be used with confidence as such. A third reliability T-test was applied in terms of the subscales to the control group and it was found that there was a high correlation between T_1 and T_2 on all scales, however the T on Scale 2 was significant. As such the results from the case studies will be compared to the reliability coefficient of each subscale in the inventory to make a clear comparison of what has occurred in the treatment.

It was found that in assessing the results for reliability that the concept of a movable ideal for each subject was theoretically viable but put into practice led to an increased error in the statistics. The problem that occurred was that the attributes chosen for the inventory elicited a strong response by both subjects and control to the positive end of the continuum. When comparing pre and post tests the variance was then reduced to such a degree that the reliability of the Ideal appeared questionable. In fact this apparent instability was probably more of a statistical anomalous result of the many narrow variances outlined above. Other indicators suggest that the instrument was in fact quite stable or retest reliable.

The recommendation is that if the inventory is to be used in another situation then the assumption be made that the Ideal for persons answering the inventory is going to be a relatively constant factor in the light of the theory that persons define themselves in terms of persons of power and prestige, Havighurst, Robinson and Darr (1965), Bandura (1968), Rosenthal and Jacobson (1968) and reiterated by Scott (1973). In addition this point is confounded by the fact that most subjects taking a first course in Outdoor Education have not had the experience to adequately decide what is an ideal. To assume that a group of students who want to become outdoorsmen are going to down-rate the positive end of the continuum is next to naive. To negate the problems found in correlation of the ideal, that end of the continuum should be defined as an absolute of 10, or a more precise statistic found for the ideal. This reorganization of the first part of the inventory would make it consistent with Parts II, III, IV and V. These changes if instituted will enable the future investigator to use the inventory for assessment of these factors in the Outdoorsman Image during spring, summer and fall courses.

CHAPTER III

METHODS AND PROCEDURES

This chapter presents the step by step organization used to obtain the data for the investigation. The following aspects of methodology are presented in this sequence--research design, subject and setting, experimental variables, procedures and data collection, research questions, data analysis, assumptions and limitations. The section on the specific treatment given each outdoor case study group is presented in overview form only, since the complete treatment pattern of each case is found in Chapter IV.

I. OVERVIEW OF METHOD

The basic approach used in carrying out the project was inductive and synthetic rather than deductive. That is, an attempt was made to evolve a conceptual framework and generalization about the effective organization and management of outdoor educational group experiences from the systematic observation and documentation of a sequence of outdoor education group cases. A series of these group case studies were used to determine actual self change outcomes relative to predetermined educational objectives. A "management by objectives" approach was used in organizing the experiences for each case study. This process involved the manipulation of basic social, psychological and educational variables, involving leadership approaches, group structure and processes, curriculum elements and adjustment to varying environmental conditions.

Changes in outcomes and/or dependent variables were assessed with a self-rating instrument, sociometric device, personal logs, interviews and participant observations. The project took place over a period of

3 years from 1973 to 1975. Information gained on a case study was utilized to modify each of the subsequent cases. The leaders sought to manipulate specific programme or treatment factors in line with certain case-specific objectives within a general over-riding set of objectives. Thus each case possessed unique emphasis on particular objectives although following the general thrust. In this way an attempt was made to examine the specific effects of various programme treatment factors on outcomes. Each case study was thus both an independent field experiment and a case capable of being compared with other cases.

The investigator's dual role as leader and participant and as observer researcher could potentially have created problems in the study. A continued effort was made to retain a stance of involvement that created the leader effect needed to facilitate the type of learning that was expected from the objectives, while at the same time to be able to stand back and analyze what was really happening. Every effort was made to create an atmosphere of openness and fairness in accepting ideas and the opinions of others. Throughout the case studies scrutiny of the various forms of data seemed to bear out the reasonably successful participation of this dual involved participant observer role.

II. PROCEDURES AND DATA COLLECTION

Inventory

The pretest questionnaire was administered to each case group after the class had been together for a period of four days. This was done to give the subjects an opportunity to observe others in a variety of situations that would relate in some way to the outdoor attributes they were being asked to evaluate. Subjects used computer sensor sheets to record their response. The subjects were permitted to ask as many questions as they desired to clarify difficulties in the questionnaire. The small groups allowed for this interaction to take place thus clearing up any difficulties that would have occurred with larger groups due to the complexity of the instrument. The post-test using the same procedures was given to the students one day after their return from their final outtrip.

Personal Log of Experience

The second method used sought to arrive at introspective-experiential data as to the outdoor experience through the use of daily logs (Appendix G) kept by the students. At the beginning of the course each student was required to purchase a log book in which they were expected to record daily their assessment of the following areas:

1. Environment
2. Curriculum Elements
3. Group Coping
    a. External - what was done by the group that was visible
    b. Internal - what feelings the subject felt the group had
4. Self
    a. External - what was done by the subject that was visible
    b. Internal - feelings about oneself and others in terms of interaction and environment

The subjects were informed that what was written in the diaries would be kept confidential and that they would not be read until the final exams were marked. They were awarded an automatic 15 percent if the log was done in a genuine manner and an F for this part of the course if no log was completed. The log was handed in immediately following the trip. It was expected that this information would both supplement and complement the results of the questionnaire and other instruments.

Private Interviews

At the termination of each course the subjects were interviewed by the investigator to arrive at the individual's assessment of the course and individuals in his group. The interview took approximately 45-60 minutes and provided needed information to support or reject the other data.

Leader Questionnaire

In order to ascertain the attributes valued most highly by the leadership team each leader was required to write the first three parts of the questionnaire. This data was prepared for each case study in order to assess the relationship between the students' values and those of the staff.

III. SUBJECTS AND SETTING

Subjects

The subjects were chosen from two sources. Those taking the spring intersession course P.E. 389*, P.E. 382* from the University of Alberta and those taking P.E. 280*, 382* from Camrose Lutheran College. This made the investigated samples clusters that were interested in this specific area of education. The subjects for the case studies A and D were students from first to fourth year university. In case D there were four students who had worked as professionals in various areas of the community as well as adults from the university. The subjects from case studies B, E and C were all from first and second year college population. Each of the case studies' average age, sex and outdoor experience is presented in Table 8.

---

*P.E. 389 - Introductory Course in Outdoor Education, University of Alberta. In 1975 this course number was changed to P.E. 280, now given at both the University of Alberta and Camrose Lutheran College.

*P.E. 382 - Warm Weather Outdoor Education.

Table 8

THE SAMPLES' CHARACTERISTICS

Sample	Case A Spring 1973	Case B Fall 1973	Case C Fall 1974	Case D Spring 1975	Case E Fall 1975	Total
Male	16	13	10	6	8	53
(N) Female	9	11	8	2	13	43
Avg. Age	23	18.8	18.8	30.5	18.5	20.79
			Relative Frequency (PCT)			
Outdoor Experience						
1. Farming	14.0	22.9	22.2	31.3	21.4	20.8
2. Fishing	--	10.4	8.3	12.5	11.9	7.8
3. Oil	2.0	4.2	--	--	7.1	3.1
4. Parks	26.0	14.6	13.9	6.2	19.0	17.7
5. Logging	2.0	2.1	--	--	--	1.0
6. Forestry	2.0	--	11.1	6.2	2.4	3.6
7. Survey	2.0	4.2	5.6	--	--	2.6
8. Travel	30.0	12.5	27.8	25.0	35.7	26.0
9. Other	4.0	8.3	8.3	18.8	2.4	6.8
10. Responses Missing	18.0	20.8	11.1	0.0	0.0	10.4
Camping Experience						
1. Scouting	14.0	6.2	16.7	18.8	7.1	11.5
2. Church camp	--	20.8	11.1	12.5	23.8	13.5
3. Y.M.C.A.	2.0	--	--	--	--	.5
4. Outward Bound	--	2.1	13.9	--	4.8	4.2
5. Private	36.0	6.2	25.0	37.5	19.0	22.9
6. Jr. Forestry	--	--	8.3	--	2.4	2.1
7. Youth Hostel	2.9	6.2	2.8	12.5	14.3	6.8
8. Family Camping	26.0	22.9	16.7	6.2	21.4	20.8
9. Other	8.0	16.7	--	12.5	4.8	9.4
10. Responses Missing	12.0	18.8	5.6	0.0	2.4	8.3
Purpose for Taking Course						
1. Teach	26.0	6.2	11.1	25.0	9.5	14.6
2. Know more about Out. Education	--	25.0	19.4	18.8	26.2	17.2
3. Camp Leader	4.0	6.2	2.8	12.5	7.1	5.7
4. Thought would be interesting	14.0	22.9	13.9	6.2	23.8	17.7
5. Interested in this type of education	12.0	12.5	19.4	12.5	9.5	13.0
6. Improve Camping Skill	12.0	10.4	33.3	12.5	14.3	16.1
7. Other	4.0	2.1	--	--	4.8	2.6
8. Responses Missing	28.0	14.6	0.0	12.5	4.8	13.0

Settings

The purpose of the investigation was to expose the subjects to the media of travel in the outdoors primarily of two natures--first by that of backpack hiking and second to that of canoe travel. The area of exposure for the cases A and D were primarily in the mountains where both groups travelled from the Boreal forests of the eastern slopes of the Rocky mountains up to the open ridges at the 7,000 foot level experiencing high open scenic views.

Case B was exposed to the hilly terrain of the Battle River valley within 15 miles of Camrose under cold winter conditions.

Cases C and E travelled through the badlands of the Donalda area northwest of Big Knife Provincial Park under ideal fall conditions. The weather was warm, the colours were beautiful. The major problem was to find good water.

In cases A, C, D, and E, all groups paddled approximately 170 miles down the Saskatchewan River from Rocky Mountain House to Devon, Alberta which has stretches of fast water with rapids, flat slow moving areas and a variety of channels. Case B covered the same section of the upper river but stopped a day short of Devon at the Genesee Bridge. Due to the Big Horn and the Brazau Dam, the level of the water remained constant for all cases except for Case A where the river was somewhat higher.

Cases A and D had a greater immersion in the outdoor environment than the other groups in that only six days of the entire course were spent on campus while the other 16 days were spent in the field. In cases B, C, and E the courses were held during the fall semester with hiking and canoe trips being separate entities with regular classes held during the week. The trips for each group consisted of a four day backpacking trip and a six day canoe trip.

The weather in all cases was primarily clear and cool with sufficient sun, rain, wind and snow to force an adjustment in terms of clothing and shelter. Case B experienced the greatest degree of severe weather both on the canoe trip and the hiking trip as there were longer periods of freezing rain and snow conditions.

IV. RESEARCH DESIGN

The research took the form of a controlled investigation or natural experiment (Campbell and Stanley, 1966). French (1950) and Blalock (1966) among others have written on the possible shortcomings and the utility of field experimentation. As Kish (1970:110) has stated there is a loss but also a gain in this type of research:

> In social research in preference to both surveys and experiments, frequently some design of controlled investigation is chosen - for reasons of cost or of feasibility or to preserve the natural setting of the measurements. Ingenious adaptions of experimental designs have been contrived for these controlled investigations. The statistical framework and analysis of experimental designs are used but not the randomization of true experiments. These designs are aimed to provide flexibility, efficiency, and especially some control over the extraneous variables. They have often been used to improve considerably, research with controlled investigations. These designs are sometimes called natural experiments . . .

The nature of the research in this investigation is such that the only valid approach to the problem was to conduct the treatment in the environment that influenced change. The subjects are not randomized since this would be an unreal situation. The purpose of the research was to assess what occurred in the outdoor setting. A series of case studies were conducted and Sherwood's (Gibson's) self instrument was used to quantify personal change. In addition, the other substantive data was collected using excerpts from the students' log and the descriptive observations of leaders and the investigator. The evidence gathered from these three different facets will be synthesized in Chapter IV.

Each case studied was taken from a particular fixed (non-random) group that chose the treatment effect from their own interest in Outdoor Education. Campbell and Stanley (1963) refer to this "design type 10" in that "the groups constitute naturally assembled collectives such as classrooms as similar as availability permits yet not so similar as to dispense with the pretest".

In this study while cases experienced many common treatments each case was assigned a slightly different independent variable or combination of variables under the assumption that the training effect should produce a different result for that group. The effect of history, maturation, testing and instrumentation was similar for Cases A and C and for Cases B, D and E. The dependent variables were the self-related variables while the independent variables included variations in leadership, curriculum, environment and group as part of a specific treatment plan.

V. EXPERIMENTAL VARIABLES

Introduction

The treatment for each of the cases was organized to contain independent variables that would be constant. Each case was exposed to one or more unique independent variable that occurred through manipulation of the program elements or was a result of changing environmental conditions. It was assumed that in the use of the outdoor natural environment as a treatment effect subjects exposed to random effects of weather that could not be manipulated but would have to be assessed in their impact.

Independent Variables

The independent variables were those factors that are used to achieve the objectives of the leadership team and to a certain degree those of the students.

Objectives. The following are a list of those objectives emphasized:

1. A basic competency in outdoor living, survival skills and outdoor leadership skills.
2. A strengthening of areas of weakness in order for the individual to be an adequate leader in outdoor situations.
3. Skill and knowledge of the process involved in living and working in small groups in the outdoors.
4. A broad appreciating of the ways our natural resources may be used to enhance educational and recreational experiences.
5. Ecological concepts and their application for the wise use of our natural resources.

The objectives were implemented through the utilization of the leadership team, group process, curriculum elements and the environment as independent variables to provide a unique treatment for each case.

Leadership. In the outdoor situation leaders become models for students if they are perceived as having the physical skills necessary to cope effectively with the challenge of the environment and if they also have the socio-emotional skills that are adequate to communicate in a sensitive manner with others. It was considered of maximum importance to have leaders who were highly skilled in not only the physical aspects of the outdoors, but in the area of inter-personal relations and environmental awareness. The leadership personnel met with the investigator before the courses to discuss objectives and to plan the structure of the experience for the students. Every effort was made to put leaders in a position where they could put into practice some of their skills and develop a position of importance on the outtrips.

The leadership team in all case studies excluding Case A were not assigned to a specific group. In Case A a leader was assigned to a specific group but was instructed to play a low profile of a resource person to enable natural leaders to emerge within the groups themselves. During the total time with groups A and D the course leaders were in constant contact with the subjects, participating with them in their activities.

In all cases it was impressed upon the leadership team that they were expected to take any risk within reason that they desired the subjects to take. In certain cases leaders had to limit their involvement due to the pressure of the tasks at hand, but on the whole there was opportunity for all to interact on an informal basis, letting the environment provide the setting where one could enhance his or her power as a referent other.

When an expedition took place the focus of the subjects became limited to the actions of the leaders and the significant referent others who emerged in the groups. If the people in the groups were able to perform the roles in the outdoor situation well and if they had the socio-emotional characteristics of communication, enthusiasm and a good sense of humour, they often took on positions of power in the groups. It was assumed that when the ascribed leaders and the students began to cope effectively and well with the challenge of the outdoor situation, the subjects would desire to imitate and respond in a similar manner to the possibilities for growth in the natural environment.

Group Process. The small group was the structure in which students spent most of their energy during the period of treatment in the wilderness setting. In this milieu students were exposed to living with others in providing for the basic needs of a family: food, shelter, skill resources and socio-emotional understanding. The groups were organized to provide a stimulus for growth while living in this more primitive setting. The criteria used to bring about the objective of socio-emotional development was:

1. There would be males and females together in each of the P-groups (cooking groups).

2. Subjects were placed in groups where they had no previous close friends. This forced them to meet new people and build new relationships without the aid of a close friend for support.

3. The number of people placed in groups was never more than seven and never less than three. The number that was considered optimum was five.

4. Members of each group were assigned on the basis of their strength in canoeing, swimming, mountain leadership, first aid, cooking and fun leadership. This was done to provide each group with resource persons who could give information and at the same time become valued by the others.

5. The minimum standards for all groups to live by were:
    a. Treat the other and his belongings as you would treat yourself.
    b. Everyone has the same right but not the same responsibility in a group.
    c. One must be sensitive to the personal needs of people to have privacy.
    d. In times of danger and stress those with the highest skill level provide the leadership. In times of leisure everyone

must participate in all tasks to provide a worthwhile learning experience for everyone in the P-group.

e. There are no "free lunches" in the outdoors, each person has to pay his own way. However his welfare is the responsibility of everyone in the community.

6. A number of group activities were held to increase complete dependence on the group members. Each P-group in Cases A, C, and E were assigned a day of wilderness travel apart from the leadership to help increase their dependence on each other and to create a situation where the focus would be entirely on their group in finding its way through the countryside.

7. Each group did its own planning of menus, purchase, packing, and cooking of food and the providing of shelter and warmth.

8. Students were asked to analyze the development of their group, how it functioned and how interpersonal it became. There was an increase in the amount of interpersonal and input into the groups by the leadership team in this order $E < A < B < C < D$.

9. The P-groups were kept constant throughout the entire experience to promote insight into what type of group skills and caring could develop between members in that setting. They were encouraged to observe the factors of inclusion, control and intimacy.

10. Competition between groups was limited to prevent group disintegration on the part of the losers and too strong a feeling of "we-the-people" on the part of the winners. The external force to develop group cohesiveness would be the challenge of living in the environment and coping with the curriculum elements.

Curriculum Elements. Those aspects of the treatment that were actively planned and carried out by the leadership team for the subjects are defined as curriculum elements. They encompasss the strategies used to bring the leaders, group and environment into such a focus that reinforced learning takes place. It involves planning and scheduling of activities that will occur on the course.

A comprehensive outline of these activities and learning experiences are provided in each case study. For example, to enhance learning about the impact of technology on the natural environment, the concept would be taught as a principle reinforced by meaningful activity. The subjects not only ascribe to the concept of carrying cans and bottles out of the wilderness setting but are taught how this act relates to pollution at large and in addition, understand they are paying a price in expended energy to bring the items back to civilization.

In certain situations simulation activities took place to bring about the learning effect. For example, students on the spring trips practiced dumping canoes to learn how to rescue themselves and others if they ever did dump in the real situation. The fact that on all trips some canoe dumps through human error only helps to emphasize the importance of this activity.

Every effort was made to program curriculum elements that would support the attributes that defined an outdoorsman in terms of the objectives as outlined.

Environment. The season and the terrain are constant treatment effects that can be used by the leadership team. The weather conditions, chance meeting of animals and unique types of topography provide random learning experiences that one builds into the course by taking the subjects out for a period of five days or more. The composite learning that occurs from the stimulation of all the senses cannot be measured adequately; however, certain consequences are evident and are outlined:

1. The subjects were removed from the controlled temperature of modern living to a situation where the human organism must make a variety of changes in its clothing and habits to survive the temperature and weather change.

2. The challenge of rivers, mountains, endless forest and swamp create the struggle or setting in which the subjects must learn to cope or pay a price for errors. This perceived threat causes a mental set where one desires to learn certain information and skills in order to survive more effectively.

The investigator has termed this process "reality confrontation" where subjects reduced to the base essentials for survival must come to terms with certain ecological and ethical principles. The stark reality of nature and her power can bring modern man, when stripped of his technology, into a position of confrontation in which he learns once again that living with nature has consequences that we cannot avoid.

3. There are immediate consequences for mistakes, poor planning and carelessness. Thus a feedback system promotes learning in an often very painful way.

4. The contrasts between heat and cold, joy and pain, despair and hope, are all more consequential in a primitive setting. Thus subjects are confronted with intensity of feeling which is often insulated by the technology of contemporary society.

5. By using any part of the natural environment through manipulation of activities in its environs, the learning of a variety of educational concepts were attempted. Subjects spent time drawing relation-

ships between all of life by observing concrete examples of nature's laws at work.

Dependent Variables Outcomes

1. Self Ratings in terms of these parameters:
   a. Self-Identity (SI)
   b. Self Evaluation (SE)
   c. Total Self Evaluation (TSE)
   d. Objective Public Evaluation (OPE)
   e. Skill Tasks
   f. Environmental Self
2. Public Peer Ratings
   a. Sociometric status before experience
   b. Sociometric status after experience
3. Leader outcomes as ascribed to by subjects
   a. Importance ratings for factors by leaders, referent others and subjects.
   b. Importance rating change by the leaders, referent others and subjects.

Definition of Terms Related to the Treatment

1. Outdoor Education Group Experience. The course in outdoor education that takes in an 8 to 17 day expedition involving as a base, camping, backpacking, orienteering, canoeing and environmental immersion in a wilderness environment.

2. Task-Leader. One who is able to efficiently perform and lead others in resolving task oriented problems in the outdoor environment.

3. Socio-emotional Leader. One who is capable of communicating and establishing good rapport with others in a group with his personality,

and interpersonal skill.

3. P-group. The primary group, a subgroup in which an individual is placed and where he/she lives throughout the field experience.

4. Real Risk. This represents the real risk in the activity, that level of risk which the leader knows he must cope with to preserve the safety and life of the group.

5. Perceived Risk. This is the risk factor perceived by the subject in terms of his lack of experience with the challenge and his resulting fear level.

6. Reality-Confrontation. The self-evaluation that occurs when a subject has to test himself both in relation to others and the environment where the consequences have meaning.

7. Trade Off. A term used in the outdoors that indicates that for every action there is both a gain and a loss.

8. Referent Other. This term is synonymous with significant other, meaning a subject who has been selected by another as one whom he/she identifies and desires to emulate.

VI. RESEARCH QUESTIONS AND DATA ANALYSIS

Research Questions

A number of specific questions require consideration in analyzing the various forms of data collected.

A. OUTCOMES OF OUTDOOR GROUP EXPERIENCES RE SPECIFIC OBJECTIVES AND CORRESPONDING SELF-EVALUATION IN SELF-ACTUALIZATION

Question AI: What is the effect of the general outdoor education group experience on the self-actualization of composite outdoor self, specific outdoor self attribute factors, and on total self-evaluation?

Question AII: What is the effect of unique case modification of leadership, group, environmental or curricular processes on the self-actualization of outdoor composite self, of specific outdoor self-attribute factors, and on total self-evaluation?

Question AIII: What is the effect of subjective and objective public evaluation on the self-actualization of the composite outdoor self and specific self-attribute factors?

B. OUTCOMES OF OUTDOOR GROUP EXPERIENCES AS THEY RELATE TO LEADERS, REFERENT OTHERS AND SUBJECTS' 'IMPORTANCE' RATINGS OF SPECIFIC OUTDOOR SELF-FACTORS

Question BI: What, if any, is the unique effect of the value leaders place on the importance of specific factors in the outdoor experience?

Question BII: What is the relationship between the value leaders place on the importance of self-attribute factors and the response to those factors by referent others and subjects?

Question BIII: What characteristics were evident in those subjects chosen by their peers as referent others in each case?

Data Analysis

Rationale for Utilizing Parametric Statistics. After a review of the recent literature the investigator decided that the study would be better analyzed by the use of parametric statistics.

The procedure of summating attributes to arrive at subscale scores produces data that approaches the properties of interval measurement. The number of statistical tests are reduced making the inventory a more powerful measurement.

Anderson found

> . . . that the type of measuring scale had little relevance to the decision to use parametric or non-parametric tests . . . the F- (or t) test may be applied without qualm . . . It will then answer the question it was designed to ask: Can we reasonably conclude that the difference between the means of the two groups is real rather than due to chance? (1970: 54)

Orlick (1970) explored in detail many studies on the advantages and disadvantages of non-parametrics as parametric statistics for research and concluded that there are strong arguments for the use of parametric tests for social research. With this in mind the data was analyzed using Pearson's Product Correlation, Analysis of Variance (ANOVA), and the Scheffe procedure of comparisons between means.

Critical Level of Significance. The commonly used critical level of .05 was used to assess the results from the inventory. Since the study was to a large extent exploratory in nature this significance level was deemed sufficient to serve as a guideline for assumed positive change based on the theoretical assumptions of the investigation.

The qualitative data was used by the investigator to substantiate or explain the results of the inventories.

VII. DELIMITATIONS AND LIMITATIONS

Delimitations

1. The sampling of subjects was delimited to individuals who applied to take the Outdoor Leadership course for University credit. The subjects ranged in age from 18 to 45 with the largest group being in the 19 to 21 year old sector.

2. The only subjects tested were those who completed 10 days or more in the outdoor environment. All subjects had to complete a pre and post test on the inventory, hand in a diary and attend a post oral interview with the investigator.

3. The investigator was a part of each case study as the key leader, lending continuity to the value structure, curriculum content and procedures, that were all a part of the treatment. Leadership were all thoroughly informed of the goals and aspirations of the study before becoming a part of the process.

Limitations

1. In cases A and D the group was removed from the multiple variables of the school community for a period of over 10 days. This enabled the treatment variables to have clearly more parity of impact than with Cases B, C and E where these subjects returned to the school environment between trips and were affected by other variables.

2. The presence of the investigator in the treatment program as an involved participant observer could have potentially created a positive response set in the subjects re what was planned to occur in treatment via objectives.

3. One limitation of the investigation may have been the experimental nature of the outdoorsman inventory. In regard to future

research in the field, the trial and error process used to establish a valid and reliable instrument for use is of significance. However, the response by the subjects may have been to some small degree influenced by this parallel study on scale development in the investigation.

4. The final observable limitation to the study was the expansiveness of its boundaries and the uniqueness of the study. Each area is a study in itself, however unless there is an all embracing plan of attack more limited studies in isolation would only produce fallacious, statistically significant conclusions that will not be representative of the outdoor situation.

CHAPTER IV

RESULTS

This chapter presents the statistical findings found via the Outdoorsman Inventory and the descriptive and observational data obtained from the subjects through interview, diary and observation. The results from the inventory and the statistics are presented in the first section of the chapter followed by the analysis of each Case study in order from A to E. The programme or treatment effect for each study is outlined followed by a summation of the statistical results and the data from the interview, diaries and leader observations. The results are then synthesized and discussed for each case study.

I. INVENTORY

Total Outdoor Self-Identity Change

The basic question for the investigation is whether the subjects, after being immersed in the programme treatment, were in any way affected by the experience as recorded in the four outdoor scales. It was found that in total the subjects Outdoor-Self-Identity (OSI) was enhanced beyond that of the control group. This result is displayed in Table 9 (p. 87). The high F-Ratio indicates a very significant change in the overall means of the test group over that of the control. We can, therefore, confirm our prediction that the self-image of the subjects has moved toward a more positive outdoorsman ideal.

This evidence substantiates that of Krieger (1973) who found in a review of recent research literature that a positive effect was recorded on the self-concept (image) for most children as a result of an organized camp experience.

Table 9

COMPARISON BETWEEN OUTDOOR SELF IDENTITY CHANGE IN THE CONTROL GROUP (F) AND THE TOTAL SUBJECTS TREATED ON ALL THE FOUR SCALES, USING ANALYSIS OF VARIANCE

Source	Sum of Squares	Degrees of Freedom	Means Squares	F Ratio	Probability 1-Tail
A Treatment, Control	246.63	1	246.63	74.66	.001
S Within	574.75	174	3.30		
B Scales 1, 2, 3, 4	69.06	3	23.02	31.05	.001
AB	24.88	3	8.29	11.19	.001
BS Within	387.02	522	0.74		

Having answered the question whether people become self-actualized through outdoor experiences, the next problem was to determine in what specific areas these changes occurred. To clarify this the responses to the four outdoor scales were statistically treated via Analysis of Variance and the Scheffe Multiple Range Test for significant differences.

Outdoor Self Identity Change by Scale

The data is organized in Table 10 (p. 88) to show that by case there is a significant difference in the response to each scale. These differences are most pronounced with Cases A, C, D and E in respective order. Case D responds in a similar manner to that of the control in that there is a lower significant difference between the responses on the scales. It is of interest that Scales 2--Skilled Outdoorsman and 4--Outdoor Sportsman remain in the stronger positions for all cases while Scales 1--Sensory Awareness Outdoorsman and 3--Outdoor Sportsman stay consistently in the

Table 10

COMPARISON OF DIFFERENT SCALE RESPONSES BY
EACH CASE INCLUDING CONTROL (F) USING

SCHEFFE MULTIPLE RANGE TEST
FOR SIGNIFICANT DIFFERENCES

ONE WAY ANALYSIS OF VARIANCE

Case	Scales				Scales				
					Ss Scales	D.F.	Mean Square	F Ratio	Prob.
A	3	1	4	2					
Subset 1	.962	1.131			Btn.	3	14.525	19.935	.000
Subset 2			2.216	2.480	Wtn.	510	.729		
B	3	1	4	2					
Subset 1	.925	1.399			Btn.	3	5.637	7.736	.000
Subset 2			1.792	2.033	Wtn.	510	.729		
C	1	3	2	4					
Subset 1	.222	.411	.811		Btn.	3	6.458	8.863	.000
Subset 2				1.574	Wtn.	510	.729		
D	3	1	2	4					
Subset 1	.900	1.018	1.225		Btn.	3	3.449	4.733	.003
Subset 2				2.333	Wtn.	510	.729		
E	1	3	2	4					
Subset 1	1.136	1.155	1.743		Btn.	3	5.287	7.256	.000
Subset 2				2.175	Wtn.	510	.729		
Control	1	3	4	2					
Subset 1	.068	.081	.265		Btn.	3	3.520	4.832	.003
Subset 2				.517	Wtn.	510	.729		

lower end of the continuum for all cases including the control.

Outdoorsman Self-Identity Change by Case Study

It is important to not only analyze what factors changed through scale identification but what cases experienced the most change and to what extent. When this is done there can be an assessment of how and in what way that specific programme treatment affected the subjects.

The data is organized in Table 11 (p.90) with the results of the Scheffe Multiple Range Test on the left and the corresponding ANOVA information on the right. Each subset identifies a different level of change by the subjects which is indicated by the parallel lines. The vertical lines indicate that the case was included in all subsets showing it to be no different than those connected to it. Its change is not significant enough for it to move in any direction.

In assessing the total change (TOT) by comparing all cases it is observed that Case A changed more than the Control and Case C, Cases E and B changed more than the Control, and Cases C and D did not change significantly more than the Control although Case D is close to the cut-off in the subset.

To assist the interpretation of this data it is necessary to look at the limits of the scales dimension and the pre-test means which will determine the extent to which the Ss can change on the scale. Scrutiny of Table 12 (p.91) reveals that Case D consisting of Ss who were more mature (average age 30.5 years) and who were on the whole, experienced outdoorsmen who scored high on all four scales and hence had limited improvability. The pretest means are of such a magnitude that any post mean would be limited to an increase of 4.568 units. In addition since they were mature people their post test scores would not permit them to

Table 11

DEGREE OF OUTDOOR SELF IDENTITY CHANGE BETWEEN ALL CASES AS COMPARED TO CONTROL
USING

SCHEFFE MULTIPLE RANGE TEST
FOR SIGNIFICANT DIFFERENCE (P ≤ .05)

ONE WAY ANALYSIS OF VARIANCE

Cases	Scales						Ss Scales	D.F.	Mean Square	F Ratio	Prob. 1-Tail
1. Sensory Awareness Outdoorsman											
	Con	C	D	A	E	B					
Subset 1	.068	.222	1.018				Btn.	5	10.997	8.27	.000
Subset 2				1.131	1.136	1.399	Wtn.	170	1.329		
2. Skilled Outdoorsman											
	Con	C	D	E	B	A					
Subset 1	.517	.811	1.225				Btn.	5	17.715	13.327	.000
Subset 2				1.743			Wtn.	170	1.329		
Subset 3					2.033	2.216					
3. Outdoor Group Leader											
	Con	C	D	B	A	E	Btn.	5	6.815	5.127	.000
Subset 1	.081	.411	.900	.925	.962		Wtn.	170	1.329		
Subset 2						1.155					
4. Outdoor Sportsman											
	Con	C	B	E	D	A					
Subset 1	.265						Btn.	5	30.345	22.828	.000
Subset 2		1.574	1.792	2.175	2.333	2.480	Wtn.	170	1.329		
Total											
	Con	C	D	E	B	A					
Subset 1	.210	.620	1.238				Btn.	5	13.012	17.971	.000
Subset 2				1.448	1.498		Wtn.	170	.724		
Subset 3						1.564					

reach their ideal creating a further restriction on the post score.

Table 12

SELF-IDENTITY PRETEST MEANS OF ALL CASES AS SCORED ON EACH OF THE FOUR SCALES

Cases	Scales				
	One (1)	Two (2)	Three (3)	Four (4)	Average of M
A	6.846	4.984	6.726	4.760	5.829
B	5.726	4.292	5.558	4.792	5.092
C	6.222	5.078	5.931	4.704	5.484
*D	7.143	6.075	7.125	4.958	6.325
E	6.224	4.790	5.876	4.571	5.365
Total	6.432	5.044	6.244	4.757	5.619
Control	6.821	5.366	6.612	4.792	5.898

Outdoor Self Evaluation as it Relates to Total Self Evaluation

According to self-theory the total self-identity is composed of a great number of subselves. The question this aspect of the research addressed itself to was, what relationship outdoor self-identity had to one's total-self-identity (TSI). The data from the inventory is presented in Table 13 (p. 92) where the correlation between Outdoor Self Evaluation (OSE) and the Total Self Evaluation (TSE) and the change between means is evaluated by the T-test.

Comparison between changes on OSE and TSE indicate the significantly greater input on the OSE than on the TSE. This difference confirms the theoretical perspective that the TSI is not dependent upon one subself but composed of many subselves. It becomes apparent that any small change on

Table 13

RELATIONSHIP OF OUTDOORS SELF EVALUATION TO
TOTAL SELF EVALUATION AS MEASURED BY T-TEST

Case		Mean	S.D.	Corr.	1-Tail Prob.	T Value	Degree Free.	2-Tail Prob.
A	SE	1.564	.821	-.171	.793	2.39	24	.012
	TSE	.840	1.143					
B	SE	1.693	1.340	.339	.072	3.53	19	.001
	TSE	.350	1.599					
C	SE	.620	.877	.419	.041	2.98	17	.004
	TSE	-.222	1.263					
D	SE	1.238	1.456	.496	.105	2.43	7	.023
	TSE	.000	1.414					
E	SE	1.416	.658	.176	.471	2.35	18	.015
	TSE	.790	1.084					

the TSI should be recorded as a major change as the two parameters cannot be equated as equal. Therefore even though the difference is evident the T value does not at the same time indicate a great difference. It becomes apparent that on the base of the preceding argument that in Case C there is a negative move in the TSE and a small positive change in the OSE. Case D is the most unique in that the OSE has a modest change while the TSE remains constant at 0.000. This is viewed as evident of the maturity of the group and the fact that they have already internalized the OSI into the TSI self framework. The pre-scale scores endorse this position (Table 12, p. 91). The correlations for Cases A and E show there is little consistency between a change in the OSE and the TSE. Therefore it can be drawn from this data that there is a very small change in the TSE from a corresponding change in the OSE.

Objective Public Evaluation and Self Evaluation

The question to be answered is what impact has OPE on OSE or the converse. To arrive at this assessment the post-test scores of the SI and the OPE were compared to ascertain whether a relationship existed (Table 14, p. 94). When one compares the total results (Table 14, p. 94) of both paramaters, it is found that there is little significant difference in the way the Ss view themselves on the post-tests and the way they are viewed by the OP. However when the different scales are analyzed it is found that although differences are not significant for Scales 1, 3, 4 a low but significant difference exists at the .05 level for Scale 2--Skilled Outdoorsman between the means of the OSE and the OPE. This result leads us to believe that when one comes to evaluate another on this paramater that there is a rather precise criteria that can be used through observing people demonstrate their skill in coping with the physical aspect of living in the outdoor environment while in the other Scales particularly Scale 1--Sensory Awareness Outdoorsman and Scale 3--Outdoor Group Leader the Factors are less concrete and therefore more difficult to judge from a more internal framework.

Further observations reveal some evidence pertinent to the total picture of what has occurred. For instance the Ss all score themselves higher on Scale 1--Sensory Awareness Outdoorsman suggesting in this Factor one has a greater perception of what he is really like than the OP. The A section of the ANOVA indicates a strong difference between the results of all the Cases. Even though this has not been clarified

Table 14

THE RELATIONSHIP BETWEEN SELF EVALUATION AND THE EVALUATION OF PEERS IN THE P-GROUP (OPE) ON POST-TEST SCORES USING ANALYSIS OF VARIANCE

Mean Tables			Analysis of Variance				
Cases	SE	OPE	SS		M.S.	F Ratio	Prob. 1-Tail
Scale 1							
A	7.977	7.812	A Cases A-E	4	18.344	22.874	.001
B	7.125	6.857	S within	91	.802		
C	6.444	5.986	B SE, OPE	1	2.358	3.416	.068
D	8.161	8.048	AB	4	.144	.209	.933
E	7.361	7.160	BS within	91	.687		
Scale 2							
A	7.200	7.551	A Cases A-E	4	12.261	8.500	.001
B	6.325	6.810	S within	91	1.442		
C	5.889	6.005	B SE, OPE	1	4.125	4.472	.037
D	7.300	7.567	AB	4	.153		
E	6.533	6.913	BS within	91	.922		
Scale 3							
A	7.688	7.666	A Cases A-E	4	20.605	23.231	.001
B	6.483	6.631	S within	91	.887		
C	6.342	5.992	B SE, OPE	1	.028	.035	.852
D	8.025	8.217	AB	4	.376	.475	.752
E	7.031	6.940	B within	91	.788		
Scale 4							
A	7.240	7.420	A Cases A-E	4	6.543	3.664	.008
B	6.580	6.947	S within	91	1.786		
C	6.278	6.216	B SE, OPE	1	.906	1.073	.303
D	7.291	7.354	AB	4	.207	.245	.912
E	6.746	6.952	B within	91	.844		
Total							
A	7.600	7.650	A Cases A-E	4	14.939	16.832	.001
B	6.683	6.802	S within	91	.887		
C	6.258	6.027	B SE, OPE	1	.004	.006	.937
D	7.781	7.869	AB	4	.159	.251	.909
E	6.979	7.011	B within	91	.033		

Scales: 1--Sensory Awareness Outdoorsman
2--Skilled Outdoorsman
3--Outdoor Group Leader
4--Outdoor Sportsman

through statistical comparisons by Case some inferences can be drawn:

1. All cases except Case C have a higher OPE rating than an OSE rating.
2. The order of OPE rating is the same as that of the OSE.
3. The comparison of OPE means as a continuum = D > A> E > B> C which corresponds to level of performance by case in the total investigation.

Self-Identity Change and Objective Public Evaluation Change

The results of this comparison as shown on Table 15 (p. 96) show a positive upward change in SE and OPE on Scale 2--skilled outdoorsman and Scale 4--outdoor sportsman. There is a low significant change on Scale 1--sensory awareness outdoorsman and an insignificant change on Scale 3--outdoor group leader. The same pattern follows for the correlations with a very low level of agreement. The observation made in all cases was that the SE change was much greater than that for the OPE. This suggests that a S coming into the course down grades his own SE much more than the OPE. It would appear that the OPE are much more conservative on the post test. (Compare data on Table 14 (p. 94) and Table 15 (p. 96).)

The raw data assessing the correlations between the OSE and OPE on each scale showed a near significant relationship between the following where the OPE in Scale 4--Outdoor sportsman = Case C = .633, Sign. .002; Case D = .513, Sign. 097; and Case A = .303, Sign. .07. It would appear from this evidence that in these cases the change on the OPE was comparable to that on the OSE.

Table 15

RELATIONSHIP BETWEEN THE OUTDOOR SELF EVALUATION CHANGE (OSE) AND THE OBJECTIVE SELF EVALUATION CHANGE OF PEERS IN THE P-GROUP (OPE) FOR ALL CASES TOGETHER (TOT) USING CORRELATIONS AND T-TEST

Scale		Mean	Diff. M.	S.D.	Corr.	Prob. 1-Tail	T-Test	D.F.	Prob. 1-Tail
Sensory Awareness Outdoorsman	OSE	1.019	.753	1.53	.144	.08	4.82	96	.000
	OPE	.267							
Skilled Outdoorsman	OSE	1.721	1.113	1.70	.234	.011	6.42	96	.000
	OPE	.608							
Outdoor Group Leader	OSE	.887	.442	1.52	.051	.312	2.84	96	.003
	OPE	.445							
Outdoor Sportsman	OSE	2.059	1.286	1.69	.235	.011	7.46	96	.000
	OPE	.773							
Total	OSE	1.318	.845	1.33	.222	.015	6.21	96	.000
	OPE	.473							

Leaders Importance Rating on Scales

The 'importance' rating refers to the weight or coreness the leaders attach to each of the four scales. The observation made on Table 16 (p. 98) is that the leaders had a strong positive rating for all four scales with the strongest emphasis being on Scale 1--Sensory Awareness Outdoorsman. The individual differences between the leaders on all cases is not significant suggesting that the emphasis placed by the leaders in any one area was not sufficient to weigh in favor of any Factor. We can conclude from this that the leadership teams were equally strong in thoughts or ideas in all areas with a tendency to support the scale 1--Sensory Awareness Outdoorsman as key to the outdoor scene.

Choice of Referent Others

In the self theory it is postulated that those people of whom we think the most highly become those from which we tend to model our behavior and self growth. In this investigation each S chose 10 persons on the post test with whom they would like to go on an outrip in the wilderness. These choices were totaled and the Referent Others (RO) were chosen on the following criteria:

1. The highest scores on the first five choices.
2. The weighting on the first, second and third categories was given high consideration.
3. The objective data was checked with the data from the diaries, interviews and investigator observations to confirm the final decisions.

The number of leaders which consequently emerged were: Case A = 5,

Table 16

MEANS FOR LEADERSHIP TEAMS OF EACH CASE
ON THE 'IMPORTANCE' RATING OF THE FOUR SCALES
USING ANALYSIS OF VARIANCE

Scale	Mean Table	SD	N	Source	D.F.	Mean Square	F Ratio	Prob. 1-Tail
1. Sensory Awareness Outdoorsman								
A	8.886	.467	5	Btn.	4	.029	.113	.975
B	8.905	.541	3	Wtn.	11	.253		
C	8.905	.541	3					
D	8.714	.606	2					
E	8.714	.429	3					
Total	8.839	.503	16					
2. Skilled Outdoorsman								
A	7.900	.425	5	Btn.	4	.754	1.178	.373
B	8.883	.601	3	Wtn.	11	.640		
C	8.150	.244	3					
D	8.825	.436	2					
E	8.817	.842	3					
Total	8.419	.800	16					
3. Outdoor Group Leader								
A	7.710	1.177	5	Btn.	4	.610	1.111	.399
B	8.517	.284	3	Wtn.	11	.549		
C	8.517	.284	3					
D	8.675	.106	2					
E	8.517	.284	3					
Total	8.284	.741	16					
4. Outdoor Sportsman								
A	8.000	.471	5	Btn.	4	.270	2.305	.123
B	7.556	.192	3	Wtn.	11	.120		
C	7.333	.333	3					
D	7.500	.236	2					
E	7.444	.192	3					
Total	7.625	.346	16					
Total								
A	8.181	.504	5	Btn.	4	.099	.818	.540
B	8.577	.088	3	Wtn.	11	.121		
C	8.350	.350	3					
D	8.548	.101	2					
E	8.471	.151	3					
Total	8.387	.340	16					

Case B = 5, Case C = 4, Case D = 2, Case E = 5. The choice of RO's in the study show that there was a RO in all P-groups in Case A, B, and E, but that in Case C and D the RO's were isolated to two groups. This creates a unique problem for research if it is assumed that an RO is in each P-group. To have a valid assessment the P-group would have to work in isolation for most of the treatment effect. If P-groups travel with the whole outdoor community, the RO's are going to cross groups. Thompson (1975) resolved this by only doing comparisons between Ss and RO if they were from the same P-groups. Because of the trip structure in this investigation it was assumed that the choice of RO could be across groups.

Leaders Referent Others and Subjects

The Ss and leaders were required to rate each of the attribute self factors in 'importance' on a rating scale from 1 to 10. These scores were summed and the means for each case in total and, for each scale are shown.

These coreness ratings are displayed in Table 17 (p. 100) giving the rating of the leaders a value of 0.000 and the distance the subjects (S) and Referent Others (RO) were from this standard. This relationship has been statistically assessed using Analysis of Variance which has related all these parameters. The important question is whether the S and RO move toward the leaders values or whether there is a difference in their weightings.

It becomes apparent when analyzing the data on Table 17 (p. 100) that the shift of subjects and RO toward the leaders 'importance' ratings on the factors is not significant. However, there is a strong trend in that direction by Cases A, B, and D while in Case E the Ss regress and

Table 17

SHIFT OF SUBJECTS AND REFERENT OTHERS VALUING OF EACH CASE TOWARD THE LEADERS IMPORTANCE VALUE RATING OF 0.000. ANALYSIS OF VARIANCE OF VALUE DIFFERENCES BETWEEN SUBJECTS, REFERENT OTHERS AND LEADERS AT T_1 AND T_2

Source	D.F.	Mean Sq.	F Ratio	Prob.
A Cases	4	5.425	7.573	.001
B Subject, Referent	1	5.170	7.218	.009
AB	4	.265	.370	.829
S-within	86	.716		
C Total Pre, Post	1	.723	2.221	.140
AC	4	.317	.973	.427
BC	1	.018	.056	.813
ABC	4	.166	.511	.728
CS-within	86	.326		

Case		Pre	Post	Diff.	Total Diff.	Prob. Pre, Post
A	Subject	-0.779	-0.422	+0.357		
	Referent	-0.094	+0.055	+0.149		.120
B	Subject	-1.842	-1.402	+0.440	Subject	
	Referent	-1.552	-1.095	+0.457	+0.923	.148
C	Subject	-0.807	-0.934	-0.127	Referent	
	Referent	-0.168	-0.212	-0.044	Other +0.672	.627
D	Subject	-0.807	-0.278	+0.529		
	Referent	-0.116	-0.116	+0.000		.415
E	Subject	-0.366	-0.642	-0.276		
	Referent	-0.417	-0.307	+0.110		.588

The two totals refer to the change for Subjects and Referent Other the RO move by +0.110 points. Case C has a regression in both Ss and ROs. It is of interest to note that the RO are close to the leaders 'importance' ratings in both the pre and the post tests substantiating to a degree that the RO is closer to the leadership teams values. As can be expected with Case D the RO have stayed constant reflecting their stance as mature subjects who have already internalized aspects of the Outdoorsman Self-Identity in the Total Self-Identity.

Another interesting observation is that even though Case B changed the most for both Ss and RO their post test scores are still the greatest distance from that of the leaders in terms of importance rating. When one considers the value rating of the subjects and RO on the post test and that of the leaders it can be concluded that even though the change is not significant the identification in the values as important reveals in all cases except B that the difference is less than 1. unit away from the leaders value of 0.000. This reveals a close alignment with the value placed on the Factors by leaders, subjects and RO and since the statistic did not consider this aspect we can only draw an observation.

In Table 18 (p. 102) the ANOVA indicates relatively no significant change on the part of the subjects (Ss) or Referent Others (RO) toward the leaders core Factor values. However a positive trend can be seen in Cases A, B, and D. It should be noted that in Case D the Ss have almost reached the value level of the leadership team. In all cases with the exclusion of Case E the RO's were closer to the leaders than the Ss. The greatest shift toward the leaders by the RO was in Case B where the positive change was +0.629 while greatest shift away was with Case C where there was a regression -0.465 points.

In Table 19 (p. 103) the ANOVA indicates a small significant difference among cases, and a significant difference between the Ss

Table 18

COMPARISON OF SHIFT BY SUBJECTS AND REFERENT OTHERS OF EACH CASE TOWARD THE LEADERS 'IMPORTANCE' RATING (LEADERS VALUE = 0.000). ANALYSIS OF VARIANCE OF VALUE DIFFERENCES BETWEEN SUBJECTS, REFERENT OTHERS AND LEADERS AT T_1 AND T_2 FOR SCALE 1 SENSORY AWARENESS OUTDOORSMAN

	D.F.	Mean Sq.	F Ratio	Prob. 1-Tail
A Cases A, B, C, D, E	4	9.530	7.279	.001
B Subject, Referent	1	1.260	.962	.329
AB	4	1.411	1.078	.373
S-within	86	1.309		
C Scale: 1 Pre, 2 Post	1	.175	.423	.517
AC	4	.410	.992	.417
BC	1	.006	.015	.904
ABC	4	.145	.351	.843
CS-within	86	.413		

Cases		Pre	Post	Direct-ion	Total Diff.	Prob. Pre, Post
A	Subject	-0.931	-0.825	+0.106		
	Referent	-0.257	-0.114	+0.143		.565
B	Subject	-1.815	-1.566	+0.249	Subject	
	Referent	-2.105	-1.476	+0.629	+0.319	.141
C	Subject	-1.165	-1.333	-0.168		
	Referent	-0.226	-0.691	-0.465	Referent Other	.220
D	Subject	-0.119	+0.095	+0.214	+0.465	
	Referent	-0.000	-0.071	-0.071		.842
E	Subject	-0.222	-0.304	-0.082		
	Referent	-0.686	-0.457	+0.229		.686

The two totals indicate the amount of total point moved by the Subjects and Referent Other.

Table 19

COMPARISON OF SHIFT BY SUBJECTS AND REFERENT OTHERS OF EACH CASE TOWARD THE LEADERS 'IMPORTANCE' RATING (LEADERS VALUE = 0.000). ANALYSIS OF VARIANCE OF VALUE DIFFERENCES BETWEEN SUBJECTS, REFERENT OTHERS AND LEADERS AT T_1 AND T_2 FOR SCALE 2
SKILLED OUTDOORSMAN

	D.F.	Mean Sq.	F Ratio	Prob. 1-Tail
A Cases A, B, C, D, E	4	8.179	3.232	.016
B Subject, Referent	1	14.377	5.682	.019
AB	4	0.925	0.365	.833
S-within	86	2.530		
C Scale: 1 pre, 2 post	1	0.044	0.046	.830
AC	4	0.539	0.567	.688
BC	1	0.125	0.135	.717
ABC	4	0.397	0.417	.796
CS-within	86	0.951		

Cases		Pre	Post	Direct-ion	Total Diff.	Prob. Pre, Post
A	Subject	-1.250	-0.690	+0.560		.537
	Referent	-0.140	-0.220	-0.080		
B	Subject	-2.246	-1.904	+0.342	Subject	.990
	Referent	-1.473	-1.803	-0.330	+0.528	
C	Subject	-0.307	-0.650	-0.343		.414
	Referent	-0.100	-0.225	-0.125	Referent Other	
D	Subject	-1.525	-1.025	+0.500	-0.135	.156
	Referent	-0.125	+0.275	+0.400		
E	Subject	-0.848	-1.379	-0.531		.288
	Referent	-0.457	-0.457	+0.000		

The two totals indicate the amount of total point change by Subjects and Referent Other.

response and that of the RO at the .05 probability. This latter point is born out in that the RO are closer to the leaders in all Cases on this scale. Again Case B has a much lower 'importance' rating on both pre and post tests than all other cases. In looking at the total direction of the change one finds that the Ss in Case A, B, and D have moved toward the leaders values while Case C and E have regressed in a negative direction.

In Table 20 (p. 105), the ANOVA indicates that in the case of Scale 3--Outdoor Group Leader, there is a strong difference between all the cases and a relatively strong difference between the Ss scores and those of the RO. However there is no consistency between pre and post tests which indicates that there may be a significant difference in either pre or post but not in both.

In terms of direction we find that in Case B, C, and E the RO are closer to the leaders value system. While in Case D and A the Ss are closer, in that the RO in Case D regress by -0.300 points and in Case A the RO move positively above the leaders by +0.200 points. Again in this scale a trend is observed in that Case B is again farther away from the leaders value system in the post test than any other Case. The exception to this is Case C where only the Ss are -1.331 points below the leaders.

In Table 21 (p. 106) the ANOVA reveals a significant difference among the cases in their value rating of the scale, with almost no difference between the Ss score and that of the RO where in the change factor from pre to post we find a strongly significant difference of 10.632 at the .002 level.

Table 20

COMPARISON OF SHIFT BY SUBJECTS AND REFERENT OTHERS OF EACH CASE TOWARD THE LEADERS 'IMPORTANCE' RATING (LEADERS VALUE = 0.000). ANALYSIS OF VARIANCE OF VALUE DIFFERENCES BETWEEN SUBJECTS, REFERENT OTHERS AND LEADERS AT T_1 AND T_2 FOR SCALE 3 OUTDOOR GROUP LEADER

	D.F.	Mean Sq.	F Ratio	Prob. 1-Tail
A Cases A, B, C, D, E	4	9.533	7.948	.001
B Subject, Referent	1	7.144	5.957	.017
AB	4	1.163	0.970	.428
S-within	86	1.199		
C Scale: 1 Pre, 2 Post	1	1.083	1.865	.176
AC	4	0.239	0.412	.800
BC	1	0.000	0.000	.983
ABC	4	0.379	0.652	.627
CS-within	86	0.581		

Cases		Pre	Post	Direct-ion	Total Diff.	Prob. Pre, Post
A	Subject	-0.217	-0.022	+0.195		.359
	Referent	+0.450	+0.650	+0.200		
B	Subject	-1.925	-1.514	+0.411	Subject +0.958	.148
	Referent	-1.797	-1.157	+0.640		
C	Subject	-1.388	-1.331	+0.057		.433
	Referent	-0.267	-0.017	+0.250	Referent Other +0.990	
D	Subject	-0.958	-0.392	+0.566		.765
	Referent	-0.275	-0.575	-0.300		
E	Subject	-0.683	-0.954	-0.271		.909
	Referent	-0.797	-0.597	+0.200		

The two totals indicate the amount of total point change by Subjects and Referent Other.

Table 21

COMPARISON OF SHIFT BY SUBJECTS AND REFERENT OTHERS OF EACH CASE TOWARD THE LEADERS 'IMPORTANCE' RATING (LEADERS VALUE = 0.000). ANALYSIS OF VARIANCE OF VALUE DIFFERENCES BETWEEN SUBJECTS, REFERENT OTHERS AND LEADERS AT T_1 AND T_2 FOR SCALE 4 OUTDOOR SPORTSMAN

	D.F.	Mean Sq.	F Ratio	Prob. 1-Tail
A Cases A, B, C, D, E	4	9.342	3.703	.008
B Subject, Referent	1	8.212	3.255	.075
AB	4	0.577	0.229	.921
S-within	86	2.523		
C Scale: 1 Pre, 2 Post	1	8.711	10.632	.002
AC	4	0.995	1.215	.310
BC	1	0.952	1.162	.284
ABC	4	0.768	0.937	.446
CS-within	86	0.819		

Cases		Pre	Post	Direct-ion	Total Diff.	Prob. Pre, Post
A	Subject	-1.617	-0.433	+1.184		.037
	Referent	-1.200	-0.667	+0.533		
B	Subject	-1.363	-0.328	+1.035	Subject	.007
	Referent	-0.356	+0.511	+0.867	+3.678	
C	Subject	+0.095	+0.095	+0.000		.631
	Referent	+0.417	+0.667	+0.250	Referent Other	
D	Subject	-1.056	+0.444	+1.500	+1.850	.136
	Referent	+0.167	+0.167	+0.000		
E	Subject	+0.326	+0.285	-0.041		.811
	Referent	+0.956	+1.156	+0.200		

The trend that Case B and C had established in the other scales does not occur in this one, as both the Ss and RO have moved close to the leaders value rating. The unique occurrence in this scale is that the RO have rated the factor much more 'important' than the leaders in Cases B, C, and E while the RO in Case D again remains conservative with a score of 0.000.

In the three cases that had the more traumatic whitewater experiences the Ss made dramatic changes in the importance of the activity compared to Case C and Case E.

II. TREATMENT, DESCRIPTIVE RESULTS AND SYNTHESIS OF DATA BY CASE STUDY

The first section of each case study is set aside to review the treatment elements of the experiment. This is followed by a summary of both the quantitative and the qualitative data taken from the interviews, diaries and investigator's observations. The latter section deals with a synthesis of this data.

CASE A

I. PROGRAM AND TREATMENT EFFECT

Subjects (N = 25)

The subjects for this case study were drawn from candidates who applied for the University of Alberta 1973 spring session. The group consisted of 9 females and 16 males with an average age of 23 years. Their previous outdoor experience consisted primarily of travel and visiting Provincial and National Parks. Thirty-six percent had spent some time in private camping while 26 percent had family camping experiences. On the whole the majority had never been on an extended trip of this nature. The students were primarily from the faculties of

Education, Physical Education and Commerce. Twenty-six percent took the course expecting that it would enable them to be better prepared to teach the subject while 14 percent thought it would be interesting, 12 percent wanted to improve their camping skills and 12 percent were interested in this type of education. A more detailed account can be found on Table 8 (p. 70).

Ascribed Leaders

The leadership team consisted of the investigator, known during the rest of the study as Leader (1) and four senior students (Leaders 2, 3, 4, 5) from the University of Alberta. Each person came to the course with special skills and abilities and were all willing to take part in a study of this nature.

1. Male, (42) married, working on his Doctorate in Outdoor Education at the University of Alberta, having an extensive outdoor background, as a logger, high/school and college teacher. His experience in the outdoors was in the area of scouting, church and Y.M.C.A. camping. A skilled outdoorsman, not only in relating to people but to the environment. High level of religious interest and commitment to Christianity.

2. Male, (20), single, in second year of Recreation Administration with extensive background in scouting, hunter training, and outdoor activities. Thorough teaching instructor who had the ability to communicate well with people. A good sense of humour which enabled him to laugh with others as well as at himself. Respects Christian values but not a high level of interest in religion.

3. Male, (22), single, third year of Physical Education, with a background in kayaking, canoeing and competitive gymnastics. He had paddled on the 1975 centennial canoe team for Alberta on their trip

across Canada. A disciplined, competitive person with a high level of physical endurance. Demonstrated an excellent rapport with the students **both in teaching and communication. Interested in the religious aspect of man from a Christian perspective.**

4. Male, (25), married, graduate student of Physical Education, coming from a background in the Royal Canadian Navy which included exercises in mountain combat. A highly competitive person with team experience as a college hockey and baseball player. As an artistic person he was sensitive to the feelings of others and exercised a strong role as a resource person. Strongly oriented to humanistic values but not interested in conventional religion.

5. Female, (22), married to Leader (4) with a degree in Education majoring in the fine arts. An experienced camper with a wide knowledge of flora and fauna. A creative sensory-awareness person with a strong feeling toward the beauty and grandeur of nature. Had excellent rapport with the students and especially good communication with the girls on the expedition. Strongly oriented to humanistic values but not interested in conventional religion.

Ascribed Leaders' Orientation

The Leaders met before the course to discuss the philosophy and to map out the course of action for the first day of orientation.

1. Each assistant Leader was assigned to a group as a resource person rather than in defined leader role. However, the Leaders did not live with the groups and did not confine their association directly to a group. All Leaders were used as instructors or helpers in various activities during the whole course. Leaders (2) and (3) stayed in the tent with the investigator, while Leaders (4) and (5) stayed in their own tent.

2. The relationship between Leaders (4) and (5) caused a close fraternization between their groups. When the camp was split into the four different groups to find their own way through the mountains with their appointed resource leaders, group I and III stayed together with their leaders. This association accentuated itself when groups I and III camped on one side of the creek in Shangri-La, while groups II and IV camped on the other side of the creek.

3. Each leader stood out as a model in their own area and taught the whole camp:

Leader (2) - Hunter training, survival techniques, orienteering, mountain leadership
Leader (3) - Canoe leader, river rescue, and river pilot
Leader (4) - Orienteering, trail guide, and social leader
Leader (5) - Socio-emotional leader, nature interpreter

Group Organization and Function

The subjects were placed in P-groups after a review of the accumulated research of Grosser, Polansky and Lippitt (1951), Thibaut and Kelly (1959), Homans (1961), Hare (1962), Thomas and Fink (1963), Tuckman (1965), Gibson (1966), Sheriff and Sheriff (1967), Tiger (1969), Shaw (1971) and Frank and Anderson (1971) which suggested the following guidelines:

1. If a person can fulfill the important expectations of a group, he/she will be valued by the group members.

2. The greater the diversity of these important expectations, the greater the opportun ity for each individual to gain personal worth.

3. If a group needs all its members to achieve its goals, it will recognize the value of its members.

4. Competition between groups will be reduced and the force to bring about group development will be the struggle to live effectively in the outdoor environment.

5. A group should consist of five to six people to create a climate for maximum development of a person and to facilitate decision making.

6. To facilitate co-educational understanding and provide increased areas of expertise and group task differentiation, males and females would be placed in each P-group.

Procedure for Group Formation

Three days at the beginning of each course were scheduled to program the Ss through a series of activities planned to give the leaders an opportunity to gain some information on how Ss were going to respond to certain situations and people. The activities that the students participated in were: canoeing, swimming, endurance run and a limited amount of map and compass. They were then required to fill out a self descriptive sheet (Appendix H) describing their strengths and weakness. With this cumulative data at hand the leaders, on the basis of the "risk factors", used the following information as a base for the selection of the P-groups which would contain:

1. One or more strong canoeists as a resource leader.
2. A balance of swimming power for each group.
3. An expedition leader well oriented to map and compass.
4. A competent first aider to deal with emergencies.
5. One or more experienced cooks.
6. At least one socio-emotional or fun leader.
7. A balanced ratio between males and females.

Curriculum Elements

The programme treatment effect occurred for a period of 21 days during which the subjects were in constant contact with the investigator and the four resource leaders. The course was structured to include five different sections with a different focus for each.

Orientation - May 28-31. The orientation took place at the University of Alberta and included the following experiences and procedures:

1. The course was introduced by acquainting the subjects with the five instructors, outlining the objectives and clearly enunciating the time line for expedition preparation.
2. Lectures were given on menu preparation, equipment and clothing needs, first aid and group organization.
3. A number of sessions were held to ascertain the physical potential of the group by having them participate in a 1½ mile endurance run, a survival swim and the learning of canoeing skills on the North Saskatchewan River.
4. On the fourth day the evaluative inventory was administered as the last item before we departed from campus.

Mountain Expedition Brazeau Range - June 1-5. This section of the course was conducted in the first mountain range travelling west on the David Thompson highway. It is bounded by the Saskatchewan River to the south, the forestry trunk road to the west and the David Thompson highway to the north. It contains a very interesting and tricky set of land forms that provided the laboratory for the following activities:

1. The group travelled by bus to the town of Nordegg stopping at Pioneer Ranch Camp near Rocky Mountain House to store equipment and supplies for the canoe trip.

2. Arriving at Nordegg in the early afternoon the group visited the correctional institute for minimal security offenders located on the site of an abandoned mining community of earlier days.
3. Set up the first outdoor camp near the trunk road where it crosses the North Saskatchewan River.
4. The group was met by retired field biologist, Nils Kvisle, from Innisfail who led nature interpretation studies for two sessions, one in the evening and one on the morning of the next day.
5. Leaders (1) and (2) conducted map and compass instruction attempting to accommodate the different levels of student background.
6. Acquainted all groups with signal systems used to contact people.
7. Each group and their resource leader were given maps of the area and instructed to travel via any route to a specific destination marked on the map. The destination was the top of a long ridge that extends for more than two miles in an east-west direction. The groups tired and weary reached the destination by June 3 at 2:00 p.m.
8. Members of groups II and III located an ideal campsite in a small clearing at the confluence of three creeks. It was subsequently named Shangri-la by the subjects.
9. On June 4th, the subjects were given the choice of making a mountain expedition to a 8,260 foot peak or planning activities with three instructors who were to stay on the campsite. These activities included a short nature walk, the building and use of a sauna. In the evening when all the camp was together, a bannock-making demonstration was held, followed by an impromptu dance.

10. The next day an early rising at 4:00 a.m. was programmed to enable the camp to reach their pick up point on time. In addition it was felt that an early morning sunrise would be a unique experience. The route travelled to get out of Shangri-la lead over the top of a high ridge and down through difficult terrain and debris left by a forest fire. The Shunda Creek campground was reached about one hour before pick up at 11:00 a.m.

Pioneer Ranch Camp June 5-6. The purpose of spending time in a resident camp setting was to acquaint the students with this form of camping, to provide a place to review canoeing skills and to enable an easy change over to the river trip. The activities done at Pioneer were:

1. The camp groups were split with the girls and female leader staying in two cabins on one side of the camp and the men staying on the other side of the camp.
2. An introduction was given concerning the history of the camp, its setting and how it functioned to achieve its goals in introducing people to Christianity.
3. Each subject participated in sessions on lake canoeing, canoe rescue, and how to pack equipment for canoe travel.
4. A map and compass review was given to all subjects followed by a cross country competition in the sport of orienteering.
5. Student presentations followed by active participation were conducted in horsemanship, archery and riflery.
6. Evening activities consisted of campfire singing, a social dance, and discussions. All subjects helped with the camp chores which consisted of carrying firewood, setting tables and washing dishes.

North Saskatchewan River - June 7-12. The North Saskatchewan River provided the variety of water, and conditions needed to have a challenging and educational experience. The items taught on the trip were:

1. A demonstration was conducted at Pioneer on how to make one's equipment and food waterproof. Later at the river, the canoeists were instructed in how to load and secure their gear in the boats.
2. Practice was had in how to rescue canoeists when three canoes were dumped. Leaders (1) and (3) carried out the rescues showing the subjects what to do in this emergency.
3. During the first days instruction was given on current selection, navigation of rapids, avoidance of sand bars, and the fundamentals of route selection.
4. Instruction by students was given on knots, axemanship, special cooking techniques, game signs, and animal tracks.
5. The subjects experienced long hours of paddling in all kinds of weather: rain, hail, wind, and hot sunshine.
6. On June 11th after an interesting day of paddling a stop was made late in the day at the St. John's Boys School where an informative lecture was given on the philosophy of the organization and some practical aspects of its functioning.
7. In the evening, after a demonstration in how to cook cake and donuts in the outdoors, a worship service was held conducted by a group of students aided by Leader (1).
8. During the river trip it was constantly brought to the group's attention how man had altered the nature of the river valley and polluted its waters through farming, oil, gravel pits and the emission of human and industrial sewage.

U. of A. Campus - June 12-14. The time on the campus was primarily spent finalizing the evaluation and completing some aspects of instruction on the environment:

1. Dennis Wighton from the Department of Genetics gave a slide demonstration and lecture on resource exploitation and the pollution of the environment.
2. The post 1½ mile run was to reveal to the subjects whether their level of endurance had improved.
3. The examination in Hunter Training and the final examination in the course were administered.
4. The subjects wrote the post-inventory and were all privately interviewed.

The Environment

The choice of terrain for the field experience was made to include a variety of land forms. This particular area of the mountains has limited rainfall during the months of May and June.

Terrain. The Brazeau mountains rise directly from the low foothills of central Alberta. The area consists of forested valleys and high bare ridges. The north section has been ravaged by fire approximately 10 years ago leaving some slopes covered by burnt fallen trees, and the commencement of second growth. The high ridges and domes offered a panoramic view, both to the undulating forested foothills, the prairie flat lands to the east and to the continuous succession of high peaks of the Rockies to the west. The highest peak climbed in the area was 8,260 feet in elevation.

The total distance covered for the mountain trip was relatively short but the unusual formation of the terrain provided a variety of experiences for the subjects.

Weather. During the entire period the temperature range was moderate. The conditions ranged from hot and sunny, to rain and wind. The subjects were forced to accommodate by wearing a variety of clothing and using strategies to find adequate protection during times of particular stress. The average weather condition was characterized by clear skies, cool nights and warm days.

Program and Treatment Effects Unique to Case A

The treatment features unique to this first case study that were not included in subsequent cases were:

1. The visit to the Nordegg Correctional Institute.
2. Student presentations on horsemanship, knots, tracking, cooking, axemanship, riflery and archery.
3. Hunter Training lectures and demonstrations.
4. The trip through mountainous terrain as P-group unit with resource leader.
5. The experience for a small group of reaching the top of a 8,260 foot mountain with its awe-inspiring view.
6. The presence of four young leaders who were all experts in their respective fields.
7. The instruction by Nils Kvisle for two sessions at the beginning of the mountain trip where he related ecological principles to all aspects of flora and fauna.
8. A lecture by Dennis Wighton on the problems of resource use and pollution in Edmonton and Alberta.
9. The visit to the Saint John's Boys School near the end of the trip.

II. SUMMATION OF QUANTITATIVE AND QUALITATIVE DATA IN CASE A

A. Results of Inventory

The inventory data will be summated in this section related to the basic questions concerning:

1. Composite Outdoor Self. Case A (Table 11, p. 90) changed significantly in the overall SI more than the Control and Case C. It indicated a change greater than all other cases but not significantly greater than Case E or B.

2. Outdoor Self Scale Change. From Table 11 (p. 90) we have taken a summary of the scales and shown how each case scores in relation to the other cases on each scale (Table 22, p. 119).

3. Outdoor Self Evaluation as it Affects Total Self Evaluation. The T test indicates a significant relationship at the .05 level however the correlation is such that it appears that an inverse relationship exists (Table 13, p. 92).

4. Objective Public Evaluation and Self Evaluation on the Post Tests. The data in Table 14 (p. 94) indicates that for Case A there was no significant differences between the post means for OPE and SE. However Scale 2--Skilled Outdoorsman shows a significant difference at the .05 level revealing that the OPE was greater than that of the Ss OSE. A healthy trend can be observed with Case A in that in total OPE they rate second to Case D over the other three cases which corroborates the overall results of the investigation.

5. Relationship Between Change in Objective Public Evaluation and Self Evaluation. The data in Table 15 (p. 96) shows that there is a low but significant correlation between the changes in the SE and OPE on

Table 22

SUMMARY OF OUTDOOR SELF-IDENTITY CHANGE ON THE FOUR SCALES AS MEASURED BY THE SCHEFFE STATISTIC PROCEDURE FOR CASE A

1) Sensory Awareness Outdoorsman	- CASE A, E, B ≥ Control
	- Case B 1.399
	- Case E 1.136 ≥ Con. .068
	- Case A 1.131
2) Skilled Outdoorsman	- CASE A, B, ≥ Control, CASE C
	- Case A 2.216
	- Case B 2.033 ≥ Con. .517, Case C. .811
	- Case E 1.743 ≥ Con. .517
3) Outdoor Group Leader	- CASE A — Control, E
	- Case E 1.155 ≥ Con. .081
	- Case C .411 --Con.
	- Case A .962 --Con.
4) Outdoor Sportsman	- CASE A, D, E, B, C, ≥ Control
	- Case A 2.480
	- Case D 2.333
	- Case E 2.175 ≥ Con. .265
	- Case B 2.792
	- Case C 1.574

Scales 2-Skilled Outdoorsman and Scale 4-Outdoor Sportsman. This is not evident for Scales 1-Sensory Awareness Outdoorsman and Scale 3-Outdoor Group Leader.

6. Leaders. There was no significant difference between all the leaders in the case (Table 16 p. 98).

7. Leaders, Referent Others and Subjects. The data as displayed on Table 17 (p. 100) reveal that the ROs were closer to the leaders importance rating both before and after the treatment. Even though the change is not significant, Ss moved +0.357 and RO moved +0.149 points closer in the direction of the leaders value ratings of the scales.

When the data is broken down into the four scales it was found that there was a shift by the RO and Ss showing a change with the Ss moving closer to the leadership team than the RO. In Scales 1--Sensory Awareness Outdoorsman, 2--Skilled Outdoorsman there is a closer relationship to the leaders on the post test scores than the S. In Scale 3--Outdoor Group Leader the Ss align themselves with the leaders while the RO move +0.650 points beyond the leaders in the weighting placed on this factor.

We can substantiate the trend in this case that the RO were closer or beyond the leaders scores in a positive direction on Scales 1, 2, 3, but were less close than the Ss on Scale 4.

Table 23

SUMMATION OF RELATIONSHIPS BETWEEN LEADERS, REFERENT OTHERS AND SUBJECT CASE A (TABLES 18, 19, 20, 21)

Scales		Pre	Post	Direction	Total Change	Prob.
1. Sensory Awareness Outdoorsman	1 Subject	-0.931	-0.825	+0.106		NS
	2 Referent	-0.257	-0.114	+0.143		
2. Skilled Outdoorsman	1 Subject	-1.250	-0.690	+0.560	Subject	NS
	2 Referent	-0.140	-0.220	-0.080	+2.045	
3. Outdoor Group Leader	1 Subject	-0.217	-0.022	+0.195	Referent	NS
	2 Referent	+0.450	+0.650	+0.200	Other +0.796	
4. Outdoor Sportsman	1 Subject	-1.617	-0.433	+1.184		S
	2 Referent	-1.200	-0.667	+0.533		

B. Results of Interviews and Diaries

The subjects were interviewed on the second day after the trip was completed and diaries collected. The material used is a synthesis of the diaries, interviews and observations by the investigator.

The procedure used was to categorize the material from the diaries and interviews according to the four factors--Sensory Awareness Outdoorsman, Skilled Outdoorsman, Outdoor Group Leader, and Outdoor Sportsman. It was found that the material encompassed by Sensory Awareness Outdoorsman was categorized into Group Life and Environment. The Sensory Awareness Outdoorsman appears to contain characteristics that enables him to function successfully in two areas. The type of material that was recorded for the investigation were excerpts that revealed an honest reflection of the experience, both negative and positive. It was found that on the whole the responses were more positive than negative which is the characteristic of a good experience. However in those areas of discontent and dissatisfaction the investigator found that open subjects felt free to discuss the matter. In an effort to have the students respond on the diaries without fear of an effect on their grades, the investigator promised not to look at the diaries until the final examinations were over. In addition the only grade given for the diary was a 15 percent pass or fail mark. This was based on whether a person had appeared to report something for the majority of days on the trip. The only way a person could fail in this area was if they did not hand in the diary, or did not write anything down. As a result most students were quite dedicated to the process. The investigator consciously attempted in his relationships with the Ss to make every effort to be open for all types of feedback without displaying an air of sanction or rigidity to ideas in opposition to one's own. On the whole the Ss were open in their response, both in the diaries and the interview. There were a small percent of closed, protective people who only revealed a limited amount of information, while at the same time, there were those at the other end of the continuum who were completely open in their feelings, both negative and positive. The information included under the questions asked contains a majority of the negative responses from each case in proportion to the material received in an effort to balance the positive and negative.

1. What was your overall impression of the experience? The investigator found that on the whole the students felt they had a stretching experience, one that would have a significant impact on their total self-identity for many years. Their chief concerns were that it had been too rushed, with too great an emphasis on endurance, achieving a goal, rather than spending more time enjoying nature in a leisurely fashion. The other area of disappointment was that a small number of environmentally conscious persons felt that the leadership team were not concerned enough about the preservation of the wilderness and particularly, the bringing out of bottles, cans, etc. This point was admonished in word but was not enforced in action.

Statements about the total experience are included below:

> I was really happy the way the trip was conducted. It was so flexible that it accommodated everyone's goal, as far as I am concerned. It required a good deal of endurance but it goes back to the old saying that you only get out what you put into something. I keep thinking about the objective of trying to reach a level of one to one with nature, a great philosophy and one that I hope to adopt--the goal will be worth working towards.
>
> We climbed and climbed. Found a cairn on top of the mountains made of rocks. We finally crossed the ridge; below stretched the Saskatchewan valley, the prairies--the view was stunning. This was the greatest experience of my life. I would do it again tomorrow. The feeling of accomplishment is too hard to describe, one can only experience it to understand.
>
> I think the course was very demanding and it would have been nice to have more time so everything wasn't rushed. On the final day I had a feeling of pride and accomplishment that I had made it. The group interaction was something else, and I have never had a course or trip where everyone got so close to one another. This includes interaction between instructor and group.

> Living through these last 11 days has been the greatest experience of my life. It has changed my outlook on life and people both my mental, social attitudes and physical condition have changed completely. To be out in the non-polluted beauty of nature has made me realize that there has to be a greater Being above looking over us.

2. What did you learn from living with a group for such a period of time in the outdoor setting?

> Personally I have found the trip a good experience especially in accepting oneself for what one is--the emphasis on relating to others, watching for their needs as well as yours and watching their feelings likewise.

> I'm experiencing some individual change. I'm used to having my way and running the show when camping. This trip teaches me that others also know what they are doing and that they have their ways of doing things. Happily it works the other way too.

> Group morale was very low, after paddling all day in the wind and rain, we were near mutiny. We also resented Leader (1)'s reasons for going on, after our stop at Genessee boys school but we went on at least 5 miles down river before we camped.

> The outcome for our worship was extremely positive as the group again felt a oneness after the dissent during the day. The service had achieved more than its objective and we were pleased.

> Actually I was reluctant to see the trip end. This has been the highlight of my University career and I would do it over again without hesitation. The group experience was especially helpful since I was forced to live with people I would not naturally choose and with whom I had to cooperate for 11 days was excellent. It was exhilarating to find I could get along with and come to genuinely appreciate and enjoy them. The atmosphere of freedom and good fun was liberating. I don't know when I have laughed so much.

3. What if any effect did living in the outdoor environment have on you as a person? The consensus was that on the whole people felt the power and majesty of nature as they became immersed in the travel over ridge, mountain and down river:

> During the day ridges, high country, you could see a wide semi-circle of snow clad mountains, taking a picture of it seems almost futile, how can you catch that kind of beauty.

It was nice to have time by myself today and the excitement and challenge of canoeing, something new, the rapids, very scary but after a few your confidence rose and we wanted to hit them all. It made me realize the power of nature, both beautiful and devastating. The rapids we hit were a lot bigger than I expected.

The walk with X as he gave his presentation was like being able to see a separate part of life, a part of reality that most of us never, ever, ever dream about. It seemed almost like a gift from nature, a gesture of her majesty to see three elk in the meadow. Watching that bull move around checking us out was a piece of reality more profound and alive than anything you'll find in city life.

4. Do you think you have gained the skill training you need to be a competent outdoorsman?

Day dawned clear and bright but with a grey cloud mass from the west. I recognized the signs and remarked that we were in for some pretty rotten weather. I was right as the temperature dropped, the winds came up and combined with sporadic rain storms which made miserable and hard paddling weather.

We made a sauna today out of willow trees covered with plastic sheets and a rain poncho. It had racks (heated by campfire) and we poured water over it. It was big enough for 12 people and really worked. Then we piled into the creek to wash up . . . it felt good to get clean.

Really enjoy doctoring, it makes me feel that I belong and have a special place in the camp.

Learned how to make a fire with squaw wood--this will be handy in the rain, I can even light the fire without paper now.

We baked pies and donuts. The donuts were a smashing success and the pie was O.K. The pastry rolled was all right, but the problem was baking the pie. The outdoor oven worked O.K.

5. What have you learned about outdoor group leadership from your experience?

Really appreciate X's leadership, his calm approach to situations.

From the beginning of the trip certain leadership roles were assumed by a couple of members. I appreciated this because I don't have their experience. I'm not knocking it but sometimes I would want to do things one way but this was ignored.

> Y seems to be our leader, has already got our food list ready to pick up in Rocky and leads the singing all the time.
>
> I feel with my experience I could work a little harder in the group, but if I did this some of the others would not learn . . . At present I have taken on most of the leadership with no apparent conflict occurring.
>
> I was able to help in finding our way and it felt very rewarding, I found the headwaters, my bearing was good and I heard the creek a long way off.

6. What was your response to the outdoor sportsman experience of physical endurance canoeing and orienteering?

> We made 50 grueling miles today.
>
> I feel better fit physically than I have in a long time. I lost 15 lbs. I miss the quiet and solitude of the wilderness. After all the bitching, I'd do it all again. I've learned so much about nature, myself, and skills with people.
>
> The orienteering really scared me. I felt lost but as we continued, I quite enjoyed it.
>
> Personally orienteering isn't my thing, though I did learn a great deal. Especially when lost, since a group of us looked for #5 control for 2 hours. With this experience one can easily see how important it is to take your time and move consistently through the bush.
>
> A good day, I learned a lot about canoeing, packing and cooperation as we helped in the "search and rescue" section of the course.
>
> The excitement of the canoe trip is starting to get to me. The rapids are something else. I hope to get another opportunity to do this again before I head out to the flat prairies.

III. SYNTHESIS OF DATA AND CONCLUSIONS FOR CASE A

The basic research questions pertaining to a synthesis of the results from Case A will be presented in this section.

A. OUTCOMES OF OUTDOOR GROUP EXPERIENCES RE SPECIFIC OBJECTIVES AND CORRESPONDING SELF EVALUATION ON SELF ACTUALIZATION

Question AI: What is the Effect of the General Outdoor Education Group Experience on the Self-Actualization of Composite Outdoor Self, Specific Outdoor Self Attribute Factors and Total Self Evaluation?

A. Composite Outdoor Self (SI)

The quantitative data (A. 1, p. 118) indicates that in all factors the subjects in Case A experienced a significant change in their OSI with the exclusion of Scale 3--Outdoor Group Leader. The qualitative data would confirm that most of the Ss came away feeling that they had really succeeded in the outdoor setting. They expressed feelings of confidence about their ability to camp in the outdoors and indicated they had a new concern for the wilderness. Some sent briefs to the then minister of the environment on the development of the eastern slopes.

> I would do it all over again tomorrow. The feeling of accomplishment is hard to describe, one can only experience it to understand. (B. 1, p. 122)

B. Outdoor Self Attribute Factors

The quantitative data is restricted in this area to four factors: Sensory Awareness Outdoorsman, Skilled Outdoorsman, Outdoor Group Leader, and Outdoor Sportsman. It became evident in analyzing the quantitative data that the area Sensory Awareness Outdoorsman confirms two areas: a) Sensory Awareness in terms of the Environment and b) people interacting together. In this light we are using the quantitative data of Scale 1 to verify the two areas.

B^1 Sensory Awareness Outdoorsman. The quantitative data in Table 22 (p. 119) indicates that there was a change significantly better than the control but not greater than Case E or B.

1. Group Interaction--The consensus from the qualitative data is that the students did not have the same formal communication skills sessions as later cases, but they did have considerable interaction with their resource leaders where they were able to resolve many of their group problems. Added to this the maturity of the group in coping with others on university teams and in other social situations helped this case to function as groups in the most part, effectively.

2. Environment--The comments from the qualitative data only confirm that people when taken into the natural setting experience a sensory experience that responds to beauty, grandeur, and the power and force of nature. For this case the mountains were especially stimulating due to the fact that so few had ever really been on top of a mountain.

   > During the day ridges, high country, you could see a wide semi circle of snow clad mountains, taking a picture of it seems almost futile, how can you catch that kind of beauty. (B. 3, p. 123)

   > . . . the rapids, very scary but after a few your confidence rose and we wanted to hit them all. It made me realize the power of nature, both beautiful and devastating . . . (B. 3, p. 124)

B^2 Skilled Outdoorsman. The quantitative data in Table 22 (p. 119) confirms that Case A and B were significantly different than Control and Case C in this area. A review of the qualitative data shows that the skill acquisition on the part of Ss was a tangible area where they could get feedback from the environment and others. The comments indicate a feeling of pride in making a fire, or leanto, cooking some special meal or learning to control a canoe in rough water. Whether the students gained this primarily from not only having to experience it but also from having to teach certain skills to their peers is another area of possibility. Whatever the complete explanation we can conclude they grew in this area.

> Learned how to make a fire with squaw wood--this will be handy in the rain. I can even light the fire without paper now. (B. 4, p. 124)

> Really enjoy doctoring, it makes me feel that I belong and have a special place in the camp. (B. 4, p. 124)

B^3 Outdoor Group Leader. This Case is not significant in its change in this area but is close to Case E significance at 1.155 $\geq$ Case A 0.962. The assumption is that the limited response for Scale 3 occurred due to the lack of opportunity for individuals to have to struggle for power in the P-group, in order to lead or direct the group's destiny. While going through the mountains at the beginning of the trip Leaders (4) and (5) stayed together and the groups followed. P-groups with Leaders (2) and (3) did not travel as close together, but camped at night in the same area. At no time on the trip were groups really alone on an enterprise that involved a power struggle for leadership and its execution once the P-group had resolved that struggle. The only area where this occurred to some extent was in food purchase and the choosing of a campsite. In the P-groups there was recognition of people initiating task activity which organized the action of everyone else in the work that had to be done. There was the situation where two subjects tried a dictatorial role at first due to their outdoor knowledge but as others grew in understanding, the Ss were strong enough to bypass this type of power.

It can be concluded from the data that Case A did change in this area but not as much as in the other Factors.

B^4 Outdoor Sportsman. Case A showed a strong significant change over control but not to any great extent stronger than other cases. However it was the highest on the scale from a continuum point of view. Strong support was given in the responses to both orienteering and canoeing with an acknowledgement that physical endurance was not appetizing, but a necessity to achieve in this area. The river was high with many challenging rapids that provided reinforcement to this factor in addition to the fact that over half the entire expedition was spent paddling a canoe. The cumulative evidence supports a strong change in this factor.

C. Total Self Evaluation and Outdoor Self Evaluation

The evidence indicates a very small inverse correlation between TSE and OSE (-0.171, prob. 0.207) (Table 13, p. 92). The change in the OSE did not bring a corresponding change in TSE. This same phenomenon was found by Scott (1973: 185) when the results of his investigation proved that a direct impact on the total self evaluation was not always evident.

Repeated measures results provided mixed support for the proposition.

However, the qualitative data suggests a carryover to the TSE (B. 1, p. 122) from the response of the subjects. It is suggested that in this area we cannot make any categorical statements. It would seem safe however to indicate that the subjects expressed overall effect to their person that for the moment was profound in its implications for them as people.

Question AII: What is the Effect of Unique Case Modification of Leadership, Group, Environmental or Curricular Processes on the Self Actualization of Composite Outdoor Self, Specific Self Attribute Factors and on Total Self Evaluation?

A. Leadership

The direct information for this section is found under the heading Program and Treatment Effects Unique to Case A (p. 117).

The leadership team was unique in this Case since this was the only Case where there was a young, highly skilled person with each group. This structure had both positive and negative effects. From a positive dimension these leaders provided models of nearly the same age category who were enthusiastic outdoorsmen in whom the Ss could identify. In addition they provided guidance in the socio-emotional sphere, in that they were in a position to talk with different group members as a counsellor. It was through these leaders that the communication and resolution of major group problems were resolved. As a result of this cumulative effort Case A became more of a community and group oriented. In contrast, because the resource leaders did take the leader role travelling through the bush, this removed the pressure from the groups to identify and establish their own leadership hierarchy. This may have detracted somewhat from the score on Scale 3--Outdoor Group Leader. The presence of a woman on the leadership team was an added asset in that she was able to present a female perspective to the treatment effect.

It is concluded that young, competent leadership can be a positive force for extension of course objectives. How they are used will have its concomitant effects in terms of course objectives.

B. Group Modification

The structure and treatment effect was not unique. One factor was a confounding variable, in that 60 percent of these students were in either 3rd or 4th year of University. This enabled them to function at a possibly more mature level in their interaction with others than those subjects in Cases B, C, and E.

C. Environment

The unique treatment effect for this case and Case D was the high mountain journey and the more challenging rapids on the river. Both of these parameters made a lasting mark on the subjects (B. 3, p. 123) that was reflected in their response on the inventory, diaries and interviews.

D. Curricular Elements

The curricular elements that will be discussed will be those which are unique to this Case (p. 117).

1. The response for the Case occurred in Scales 1, 2 and 4.
2. The P-group trip through the mountains as a small unit appeared to develop group identity and a feeling of oneness with the group leader.

   Environment--The inclusion of Nils Kvisle, a retired biologist from Nordegg, helped to expand the indepth knowledge of nature. In addition, exposure to all aspects of the environment, particularly the viewing of the elk in the Brazeau meadow plus the variety of challenging terrain such as mountain peaks, meadows, the burnt hillside, and the changing form of the Saskatchewan all had their concomitant effects in developing the Ss sensory awareness to the outdoors.
3. The inclusion of student demonstrations and lectures on a variety of skill activities including instruction by the leaders on the wide variety of activities related to coping skill-wise with the outdoors promoted a feeling of accomplishment on the part of the SI.
4. It is suggested that the inclusion of Hunter Training, the visit to the Nordegg Correctional Institute, had little impact on the OSI.

Question AIII: What is the Effect of Subjective and Objective Public Evaluation on the Self Actualization of Composite Outdoor Self and of Specific Outdoor Factors?

The data (A. 4, p. 118) indicates that there is no significant difference between the post test ratings on OPE and OSE. This result confirms that the OSE of the subjects on the whole conforms with what their peers perceive and that the response is perceived as real by both parties. Analysis by scale shows a significant difference on Scale 2--Skilled Outdoorsman between scores by the OPE and OSE with the OPE scoring higher than the OSE.

It is also evident from the results (A. 4, p. 118) that there was a relationship between the high rating by the OPE and the corresponding high rating by this Case compared with other Cases.

> The group interaction was something else, and I have never had a course or trip where everyone got so close to one another (B. 1, p. 122).

> Since I was forced to live with people I would not naturally choose ... it was exhilarating to find I could get along with and come to genuinely appreciate and enjoy them. (B. 2, p. 123)

The change over the course from T_1 to T_2 (A. 5, p. 118) indicates a greater change in the OSE than the OPE in the overall results. However, we find a slight correlation between OPE and OSE on Scale 2--Skilled Outdoorsman and Scale 4--Outdoor Sportsman. This suggests that in these two areas the OPE due to pre-expedition activities had some notion of the competence of the Ss but for the other two scales were unable to give a more negative score so placed their response at the middle of the continuum.

We can conclude from this area that the accuracy of the OPE of Ss was close to their own SE on the areas measured and that the subjects' SE was a realistic measurement of his true self actualization.

B. OUTCOMES OF OUTDOOR GROUP EXPERIENCES AS THEY RELATE TO LEADERS, REFERENT OTHERS AND SUBJECTS 'IMPORTANCE' RATINGS OF SPECIFIC OUTDOOR SELF FACTORS

The questions in this area are based on the 'importance' rating that Leaders, Referent Others and Subjects place on the Scales and their interacting relationships.

Question BI: What if any is the Unique Effect of the Value Leaders Place on the Importance of Specific Factors in the Outdoor Experience?

The Leaders in the investigation displayed a consistency in the 'importance' they placed on each factor measured by the scale value. The differences that were registered would be outside the four factors on the outdoorsman scales. Therefore the emphasis on the factors by the Leaders in Case A is considered no more different than in other Cases. It was important to note that the Leaders had an overall mean of 8.3873 placing a high rating on all four factors.

Question BII: What is the Relationship Between the Value Leaders Place on the Importance Ratings of Self Attribute Factors and the Response to Those Factors by Referent Others and the Subjects?

Reference to the summary A. 7 (p. 119) points out that the RO were closer to the Leaders' importance rating both before and after the experience than the subjects. There was a move in the direction of the Leaders' values even though it was not high enough to be significant. The qualitative data supports the notion that the RO were the most skilled socio-emotional persons on the expedition. Their ascription to 'importance' of the four factors was evident in the way they emphasized the responsibility they took in the groups to maintain task and socio-emotional maintenance. In Table 23 (p. 120) it is found that the area that the RO placed the emphasis was in Scale 3--Outdoor Group Leader where they scored +0.650 beyond the Leaders' value of 0.000. In contrast the RO do not rate Scale 4--Outdoor Sportsman as 'important' as the subjects who move +1.174 points toward the Leaders' value level. Here the change is significant for both RO and subjects (Table 21, p. 106).

Question BIII: What Characteristics were Evident that Caused the Subjects to Choose their Peers as Referent Others in Each Case?

The RO chosen for this case were first strong socio-emotional people of whom only two had experience in the outdoor field. All were physically strong, energetic and athletic with the ability to organize themselves and others. As they learned the outdoor skills their positions of power appeared to become more secure. Their leadership style was completely different in that three tended to be the extrovert types that were joking, singing and shouting, while two tended to be less noisy but with a good sense of humour. The interesting tendency in the data is that these leaders scored a +0.450 for the pre test and a +0.680 for the post test indicating a concern for these attributes defined in Scale 3--Outdoor Group Leader, more so than in any Case (Table 20, p. 105).

It can be concluded that there was a stronger trend toward the Leaders' values than for the subjects. The strongest aspects of these peer leaders was their ability to relate to others in the situation, and perform those physical challenges effectively and well in the situation.

CASE B

I. PROGRAM AND TREATMENT EFFECT

Introduction

Case B was the first study to be conducted in the fall of the year. The structure was tied to the college semester system with three lectures per week from September 10th to December 5th. Two expeditions of four days each were planned during the semester to attempt simulation of the 10 day exposure of Case A.

Subjects (N = 25)

The subjects in this study were students from Camrose Lutheran College in first and second year University. The group consisted of 11 females and 13 males with the average age of the group being 18.8 years (Table 7, p. 70). Their outdoor experience was gained primarily from farming (22.9%), Packs (14.6%) and travel (12.5%). Twenty percent had spent time church camping while 22.9 percent had gained some experience in the outdoors camping with the family. Twenty-five percent took the course to find out more about Outdoor Education, while 22.9 percent thought the course would be interesting. In contrast to Case A only 6 percent were interested in teaching the subject. A more detailed analysis of the sample may be found on Table 8 (p. 70).

Ascribed Leaders

The leadership team consisted of the investigator (1), a staff member from Camrose Lutheran College Biology Department (6) and Leader (2) who returned for the canoeing section of the course.

1. - Refer to Case A, page 108.

2. - Refer to Case A, page 108.

3. - Male, (33), married, Ph.D. in Entomology, environmentalist,

highly skilled in whitewater canoeing with the American Youth Hostel Association, having extensive experience in light weight camping. Had excellent communication with students, a ready sense of humour, and an ability to work well in groups. High level of religious interest and commitment to Christianity.

Ascribed Leaders Orientation

Leaders (1) and (6) spent a number of short sessions together outlining the program and decided to function as a team sharing responsibility where it was needed. It was felt that Leader (6) would add the biological emphasis given by Nils Kvisle for Case A, only on a longer term basis. The input by Leader (6) was only possible during the field aspect of the course as he was busy as Dean of Students while on the College Campus, in addition to his duties as a teacher. This contact /with students outside the course would, it was felt, help his rapport during the expeditions.

Group Organization and Function

The group structure and organization was the same as that outlined for Case A. Differences occurred primarily in three areas:

1. All members of each P-group slept under a leanto rather than being separated into tents. This provided an opportunity for all members to remain as one group rather than accentuating separation that occurs when tents are used.
2. The groups did not have the help of the resource people as in Case A and had to depend for guidance on Leaders (1) and (6) for most of the time in the field.
3. Before groups were chosen Leader (1) spent a number of days teaching the subjects survival swimming skills in the Camrose

swimming pool. This gave Leader (1) a good opportunity to evaluate student strengths. The insight of Leader (6) as Dean of Students was also invaluable in placing students in the P-groups (cooking groups).

Curriculum Elements

The treatment effect would not be as concentrated for Case B as for Case A since the group would be together only during class time from September 13 to September 27. The first expedition would be a canoe trip which would take 4 days and this would be followed by a back pack trip for 4 days in November. In between these trips and subsequent to them the classes would continue until final examinations in December.

Orientation, Camrose Lutheran College - September 13-27. The material to be learned and the organization of the first field trip was conducted in this sequence:

1. An emphasis was placed on improving swimming skills by using the city pool and practising canoeing on the local lake. Canoe rescue was demonstrated but due to cold weather only a few subjects actually were involved in the water.
2. Instruction was given on how to construct a plastic leanto, combined with a demonstration and practice on sharpening of axe and knife.
3. Instruction was conducted on the basic elements of map and compass both in the classroom and in the field.
4. Lectures were given on clothing, menu planning, food purchase, and the packing of equipment for canoe travel.
5. The groups were instructed in an elementary debriefing process.

6. The pre test inventory was administered just prior to leaving on the trip.

North Saskatchewan River - October 4-8. The river expedition contained these basic learnings and experiences:

1. Travelled by van to Rocky Mountain House arriving at 4:00 p.m. Ferried across the river and set up camp.
2. The following information had to be given to enable the groups to function:
   a) Camping organizational skills.
   b) Choice of campsites.
   c) Fire building techniques for wet weather.
   d) How to make a willow and bark bed.
   e) Method of leaving campsites clean and aesthetic.
3. Leader (2) helped in all aspects of instruction on the canoe expedition.
4. Canoeing in current:
   a) Choice of channels, reading river to take advantage of current, how to avoid rocks, and sand bars.
   b) Navigation of rapids was instituted during the first day.
   c) Since four canoes dumped in the rapids, ample opportunity was present to demonstrate rescue techniques.
   d) The subjects were exposed to wind, rain and snow as they canoed. One evening when a suitable campsite could not be found they had to canoe by moonlight.
5. Due to rain and snow survival camping techniques were instituted. Everyone had to share clothes and equipment to enable the journey to succeed.

6. The thought for the day was led by the instructors every morning. The students conducted a worship service on the shore Sunday morning.
7. The trip concluded at the Genesee bridge thus avoiding the long stretch of slow water to Devon.

Camrose Lutheran College - October 9 - November 20. The class sessions during this period contained:

1. Debriefing sessions, with the whole group regarding the trip. Certain individuals clarified that now they knew what to do, they would be better prepared for next time.
2. Review of map and compass followed by orienteering practice in the local area. Instruction on signal system for contacting others; one whistle: I'm here; two whistles: I'm coming; three whistles: come to me.
3. The early coming of snow changed the emphasis from warm weather camping to preparation for winter. Clothing needs for winter plus the necessary survival skills were instituted. Practice in snowshoeing was given to prepare students for the experience.
4. Two lectures were given over to the philosophy of Outdoor Education and Recreation.

Winter Survival Camp - November 21-24. This back pack trip was modified to take in the climatic conditions and the setting. The instruction and key learning situations were:

1. Practical application of principles of snow camping with leanto was instituted using reflector fires. The temperature was 15-20° below 0° F.
2. A snowshoeing trip to the lake was taken where a demonstration of ice-fishing was conducted.

3. A nature interpretation walk was given by Leader (6).
4. Supervised practice in axemanship, the felling of trees, and construction of a large tepee was carried out.
5. A cooking demonstration was conducted by select students. The whole camp had a taste of the food.
6. Campfire activities were participated in on two evenings. The second evening an informal campfire social get-together was held at one P-group camp. The third evening a formal campfire program was held in the tepee.
7. The morning thought for the day was led by both instructors on subjects that pertained to the students' needs.
8. On the last day the students were instructed to snowshoe the ten miles home pulling their equipment on toboggans. This proved a tough challenge for all involved.

Camrose Lutheran College - November 25 - December 8. Since the semester was nearly over the only items included in the remaining time slots were:

1. Debriefing of each P-group after a meeting of the total camp was held to assess the experience.
2. A lecture series was given on different types of camping experience and the philosophy of summer camping programs.
3. A presentation by Dennis Wighton on the impact of pollution and the problems of diminishing resources, technology and over-population.
4. The post inventory questionnaire administered on December 5th and interview sessions held with each subject during the ensuing days.

Environment

Terrain. The terrain used for the canoe trip was that of the valley carved by the North Saskatchewan River from Rocky Mountain House to the Genesee bridge. The fall colors were brilliant on the trees and shrubs covering the low hills and ravines along the river. The terrain used for the back packing trip was somewhat similar with the steep banks and deep ravines along the Battle River providing a simulation of the foothills of the Rockies without the mountains in the distance.

Weather. The weather was extremely cold with cool temperatures prevailing for most of the time on both trips. On the river trip three days were dominated by cold rain, freezing wind and snow. The second trip was in 2 feet of snow with the temperature ranging from 5° below 0° F in the day time to 20° below at night.

Program and Treatment Effects Unique to Case B

The treatment features unique to this case study were:

1. The subjects experienced the most severe weather conditions of all the case studies. There were three days continuous rain and/or snow on the river trip, accompanied by high winds. On the back packing trip they had to cope with 2 feet of snow and lows of -5° to -20° F.

2. The course structure was reversed to that of the other cases forcing the subjects not only to learn camping skills but river canoeing at the same time. In the other cases the back packing section was held under ideal weather conditions and the subjects had more time not only to become acquainted but to learn the basics of outdoor living skills.

3. Activities related to snow camping were taught, such as:

    a) Snowshoeing

b) Cold weather survival techniques

c) Travel using snowshoe and toboggan

d) Ice fishing

e) The erection of a tepee

4. The time in the field was shorter than for all other Cases.

5. In contrast to Case A total camp and cooking groups debriefing sessions were held after each expedition to relate feelings "about where people were at" emotionally with regard to the stress of the experience.

6. There was a negative attitude developed toward the back packing snowshoe field trip due to the timing of the event. A number of students faced a conflict of interests between try outs for teams and the timing of the course. A small number had to leave on Saturday night for crucial pre league games.

II. SUMMATION OF QUANTITATIVE AND QUALITATIVE DATA IN CASE B

A. Results of Inventory

The inventory provides quantitative data that has been reduced to that which is pertinent to this Case. The material has been organized around seven areas:

1. Composite Outdoor Self. Case B (Table 11, p. 90) changed significantly more than control but not more than Case E. On the continuum Case E is not too far removed from Case D which holds the mid point at 1.238. The direction of the scores are, A. 1.564 ≥ B. 1.498,--E. 1.448 ≥ control 0.210.

2. Outdoor Self Scale Change. The data pertinent to Case B has been summated for Table 24 (p. 143). The data indicates that Case B has changed more than control in Scales 1--Sensory Awareness Outdoorsman, 2--Skilled Outdoorsman and 4--Outdoor Sportsman. It has changed more on

Table 24

SUMMARY OF OUTDOOR SELF IDENTITY CHANGE ON THE FOUR SCALES AS MEASURED BY THE SCHEFFE STATISTIC PROCEDURE FOR CASE B (TABLE 11, p. 90)

1) Sensory Awareness Outdoorsman	- CASE A, E, B, ≥ Control		
	- Case B	1.399	
	- Case E	1.136	≥ Control .210
	- Case A	1.131	
2) Skilled Outdoorsman	- CASE A B E ≥ Control CASE C		
	- Case A	2.216	
	- Case B	2.033	≥ Control .517, Case C .811
	- Case E	1.743	≥ Control .517
3) Outdoor Group Leader	- CASE B -- Control		
	- Case E	1.155	≥ Control
	- Case A	.962	
	- Case B	.925	-- Control .081
	- Case D	.900	
4) Outdoor Sportsman	- CASE A, D, E, B, C Control		
	- Case A	2.480	
	- Case D	2.333	
	- Case E	2.175	≥ Control .265
	- Case B	1.792	
	- Case C	1.574	

Scale 2--Skilled Outdoorsman than all other cases other than Case A which scores only 0.183 greater. In Scale 3--Outdoor Group Leader, Case B does not register a change more significant than the control, Case A, D or C. In Scale 4 the change is comparable to all other cases yet tends to be near the lower end of the continuum.

3. Outdoor Self Evaluation as it Affects Total Self Evaluation. The T test indicates (Table 13, p. 92) that there is a corresponding change both in the OSE and the TSE. A low correlation at the .07 level suggests that a relationship does exist between the change in the OSE and

the TSE.

4. Objective Public Evaluation and Self Evaluation on the Post Test. On Table 14 (p. 94) one finds that there is no significant difference between the post test scores in the OPE and those in the OSE on total scale analysis. However one finds on separate scale analysis that the response to Scale 2--Skilled Outdoorsman is significantly different at the .05 level with the OPE being greater than the OSE. The response of the OSE in Case B parallels that of the OPE. In looking at the continuum we find that in every scale Case B places 3rd on both the OSE and the OPE. This was validated by the SI response to the inventory and suggests a relationship between position on the continuum and the strength of the OPE.

5. Relationship Between Changes in Objective Public Evaluation and Self Evaluation. On Table 15 (p. 96) one finds that there is only a small correlation between change of the OPE and change for the OSE. The means reveal that in all cases this change in OSE is much larger than that for the OPE. Scale 2--Skilled Outdoorsman and Scale 4--Outdoor Sportsman indicate a small degree of association in the change experienced by the participants.

6. Leaders. The data shows that the leaders in all the scales have no significant differences in emphasis in terms of 'importance' results on the four scales (Table 16, p. 98).

7. Leader, Referent Other and Subjects. In Table 25 (p. 145), the trend is substantiated that the RO are closer to the leaders' valuing than the subjects. However in this case there is a greater tendency for the post test scores to be generally all farther away than in Case A. The RO shows a high level of change for Scale 1--Sensory Awareness Outdoorsman and Scale 3--Outdoor Group Leader whereas the Ss changed to a greater

Table 25

SUMMATION OF RELATIONSHIPS BETWEEN LEADERS, REFERENT OTHERS AND SUBJECTS IN CASE B ON THE 'IMPORTANCE' RATINGS T_1 AND T_2 (TABLES 18, 19, 20, 21)

Scales		Pre$_1$	Post$_2$	Direction	Total Change	Prob.
1 Sensory Awareness Outdoorsman	1 Subject	-1.815	-1.566	+0.249		NS
	2 Referent	-2.105	-1.476	+0.629		
2 Skilled Outdoorsman	1 Subject	-2.246	-1.904	+0.342	Subject +2.037	NS
	2 Referent	-1.473	-1.803	-0.330		
3 Outdoor Group Leader	1 Subject	-1.925	-1.514	+0.411	Referent Other +1.806	NS
	2 Referent	-1.797	-1.157	+0.640		
4 Outdoor Sportsman	1 Subject	-1.363	-0.328	+1.035		S
	2 Referent	-0.356	+0.511	+0.867		

extent in the skill oriented areas, Scale 2--Skilled Outdoorsman, and Scale 4--Outdoor Sportsman. In this Case we can categorically point out that in Scale 1, Scale 2, and Scale 3 the weight the RO and Ss placed on the 'importance' level of these values was much lower than the leaders.

B. Results of Interviews and Diaries

The subjects were interviewed in the evening one week after the trip and the diaries collected. The material used is a synthesis primarily of the diaries and the interviews, with the observations of the investigator. A further discussion of the complete method is found in Case A (p. 120).

1. What was your overall impression of the experience?

> Felt a strong desire to get home but felt I was returning much more a person than when I left--I had a strong feeling of accomplishment--felt I had learned quite a bit and gained insight into reasons why one would want to go into the bush.

> We really enjoyed doing the worship service but after it was over it seemed we had missed something--it was probably too impersonal and rigid for the situation.
>
> I had a most fantastic feeling of accomplishment I couldn't believe I had made it down the river.
>
> Our group started in September as separate individuals who didn't even know each other's names but during the course we have become a close knit family who have worked, lived, and helped each other when we were down or needed a laugh--we have all grown as people.
>
> I felt happy with myself, I felt I had developed well in my skill as a canoeist, in making fires, shelters, beds, and in general woods know how, I felt stronger in spirit and in body and I feel more proud of myself.

2. What did you learn from living with a group for such a period of time in the outdoor setting?

> I'm really beginning to feel that our group is a "group". We're laughing a lot more and things aint so tense--you can't be inhibited when you are living together in the same group.
>
> The group is getting bound very close together, people think of themselves less and more of the group.
>
> I learned many things about people and myself this weekend. One lesson I learned was that being feminine is not the way a girl takes care of her hair or clothes or how much make up she wears, but how she conducts herself with people; before the trip I had put too much stake on these things and not enough on just being a person.
>
> Today I found out what people are like in the way of helping your brother. It gives me a good feeling to know that people are always ready to lend a hand.

The consensus in the interviews was that through the group experience the subjects had found out more about themselves and were able to understand the feelings of others. The attempt at debriefing enabled many to air their differences and attempt some solution to the problem.

> I thought our debriefing was very valuable. It brought out an overall picture of what was happening and reinforced what we had learned. I think it was quite beneficial to the success of the trip.

One of the chief sources of contention in this Case study was that the struggle for survival was so intense it forced people into strong leadership roles. This was good for emergency situations but once the role was set it continued to the objections of the followers.

> The group stayed behind and started to cut poles for the tepee. This I felt was one of the stronger points on the whole trip. The project seemed to pull the whole camp together and we worked as one--which is very important to learn.

3. What if any effect did living in the outdoor environment have on you as a person? The chief words that were expressed were, fire, cold, food, shelter, throughout the interviews and diaries. In contrast to the Case A study, there were few highlight emotional experiences as to the beauty of nature. However, even in the struggle, a number mentioned beauty and mystery of nature.

> Moon came up, beautiful . . . in the twilight saw all kinds of shapes on the wall and the first star out. We coasted in the last spot--numb from cold, after we got out everyone froze up. It was like we were all machines not functioning although our heads . . . so cold but we made it.
>
> These trips have increased my awareness of nature--we sure know how to pollute our country.
>
> I was really discouraged to wake up to snow and it really got me down--I don't feel I enjoyed the day.
>
> I was super relaxed after supper, the moon on the river, and distant cliff was beautiful. No snow dripping but lots of frost. It was a strongly comforting time. There were no extraneous hassles--college and work were far away. Keeping alive, and the contemplation of life was important now.
>
> There was a point when we couldn't hear anyone and we laid back in the canoes and listened to the sounds; first a ruffled grouse drumming, then we could hear people through the fog, laughing and joking--what I liked most was the echo.
>
> A nice day at last, cool but sunny at times. The river banks and trees and sky made a beautiful picture, it really made us all feel good.

4. Do you think you have gained the skill training you need to be a competent outdoorsman? As a result of the experience the subjects as a whole felt that the skills of fire-building, shelter construction, and general camping technology was central to their concept of an outdoorsman.

> Pulled in for lunch, went to build a fire but it was a major undertaking as the wood was wet with mushy snow everywhere. I chilled up and was numb and cold right to the brain.
>
> When it is soaking wet learned to use duff from under the spruce trees as ground cover rather than spruce boughs.
>
> I thought I could pull the toboggan back to Camrose but I soon found out it was no Garden of Earthly Delights--I was hopping mad all the way but even that did not help me in the end.
>
> I felt happy with myself. I felt I had developed well in my skill as a canoeist, in making fires, shelters, beds, and in general woods know how, I felt stronger in spirit and in body and I feel more proud of myself.
>
> We built the leanto and set up camp effectively today, even the meals went quite well--no carbon.
>
> Wake up, snow all over the ground dropping out of trees like rain . . . we had the most comfortable bed and I didn't want to get up.

5. What have you learned about outdoor group leadership from your experience? The structure of the situation caused by intense cold forced the inexperienced group members to be dependent on those strong in outdoor skills. However as time progressed and there were less stressful days others in the groups tried to attempt new things. Those who had been in the leadership role did not want to move into a less dominating stance. Some of them reacted to girls wanting to chop wood by making fun of them. This led to a strong feeling of antagonism that built in some groups as the last trips progressed. The feelings erupted during the group debriefing sessions which helped to clear the situation.

> Everyone pretty well listens to X because he knows what he is doing.

Got caught up in the situation of having to set up camp in the dark when everyone was cold and wet--my head cleared and I got quite fired up about it--then things really fell in place.

It was tough to have to rough it so much. This meant that the group became dependent upon X but he did not dominate except in skills.

X too directive in correcting, she does not let you discover the error for yourself. This discourages one from trying.

There really were no leaders in our group except that certain ones took over in different areas, some in cooking, others fire building, shelter construction. The trouble was we were not able to get out of our areas.

I believe that X was our leader because of his forceful way and his ability to get things organized. He keeps things under control and assigns jobs to everyone and everything gets done.

I was really surprised and pleased when the group said that I had emerged as the task leader when I really didn't feel I had asserted myself any.

6. What was your response to the outdoor sportsman experience of physical endurance canoeing and orienteering?

My physical endurance has increased considerably, didn't get too tired on the hike.

We hit some rapids that looked safe enough but when we got into them we were in trouble. I paddled as hard as I could and felt like I was fighting for my life, the canoe flipped around sideways--people were hitting the water all around us, we crossed over to help some people in trouble on rock.

I felt we had done exceptionally well. I really loved the white water and the whole picture and I enjoyed helping those who flipped out.

I learned my body could carry me a bit farther than I ever thought possible.

III. SYNTHESIS OF DATA AND CONCLUSIONS FOR CASE B

The basic research questions pertaining to a synthesis of the results from the quantitative and qualitative data will be discussed in this section.

A. OUTCOMES OF OUTDOOR GROUP EXPERIENCES RE SPECIFIC OBJECTIVES AND CORRESPONDING SELF EVALUATION ON SELF ACTUALIZATION

Question AI: What is the Effect of the General Outdoor Education Group Experience on the Self Actualization of Composite Outdoor Self, Specific Outdoor Self Attribute Factors, and Total Self Evaluation?

A. Composite Outdoor Self

The quantitative data (Table 11, p. 90) reveals that Case B changed significantly more than the control, not as much as Case A, but as much as Case E. ≥ A 1.564 B 1.498-- E 1.448 ≥ Control .210. The qualitative data confirms this evidence with such statements as:

> I felt stronger in spirit and in body and I feel more proud of myself. (B. 1, p. 146)
>
> I had the most fantastic feeling of accomplishment. I couldn't believe I had made it down the river. (B. 1, p. 146)

The change that was evident was that Ss had found through the stress, resources that they did not know they possessed. This revelation produced an overall feeling of accomplishment.

B. Outdoor Self Attitude Change

The quantitative data in this scale is restricted to four factors: Sensory Awareness Outdoorsman, Skilled Outdoorsman, Outdoor Group Leader, and Outdoor Sportsman. The data for sensory awareness is localized in two areas, the environment and the group interaction in the light of this, the quantitative data of Scale 1 is used to verify the two areas.

B^1 Sensory Awareness Outdoorsman. The quantitative data in Table 24 (p. 143) indicates that Cases A, E, B are changed more than Control. On the continuum Case B 1.399 ≥ Case E 1.136 suggesting that this change is not significantly stronger but presents a trend that B was somewhat beyond Case E.

1. Group Interaction. The evidence supports the concept that people did learn more about each other and were willing to compromise to make the group work, they gained a deeper insight into themselves as open or closed people (B. 2, p. 146).
2. Environment. The words used the most were, fire, shelter, warmth, food, however nature was appreciated for its contrasts of power as well as beauty. There was a strong feeling of attempting to meet nature's challenge and succeeding. This was evident in this Case more than any other.

> We laid back in the canoes and listened to the sounds: first the ruffed grouse drumming, then we could hear people through the fog laughing and joking--what I liked most was the echo (B. 3, p. 147).
>
> I learned my body could carry me a bit farther than I even thought possible (B. 6, p. 149).

B^2 Skilled Outdoorsman. In this scale Case B changes more than all the other cases (Table 24, p. 143), excluding Case A (Case A 2.216 Case B 2.033). The qualitative data supports this change due to the fact that the adverse weather conditions reinforced the need for a high level of skill acquisition.

> . . . went to build a fire but it was a major undertaking as the wood was wet with mushy snow everywhere. I chilled up and was numb with cold right to the brain (B. 4, p. 148).
>
> When it is soaking wet learned to use duff from under the spruce trees as ground cover rather than spruce boughs. (B. 4, p. 148)

Unfortunately due to the rigors of the trip not all Ss had the opportunity to learn all they would have liked in this area. In emergency situations those with the skill training are instructed to do the job.

B^3 Outdoor Group Leader. The change (Table 24, p. 143) is not significant over the control yet is close to being significant. The qualitative data indicates that the rigors of the environment forced people into leadership roles to enable the groups to survive. Since this situation occurred on both expeditions roles became defined and when conditions were favourable those in power were unwilling to share their knowledge. This created negative feedback in the area of leadership on the part of some subjects. (B. 5, p. 148)

B^4 Outdoor Sportsman. This scale (Table 24, p. 143) has a significant change over the control, but is near the lower end of the change continuum. It is suggested this is due to the lack of orienteering as a sport and the limited time taken to learn how to negotiate rapids which was a real aspect of the river for Cases A, D and E. In addition, if we had snowshoeing as part of this scale, it might have helped to bring up the score. The suggestion is that the subjects experienced a change in the canoeing (B. 5, p. 148), but may have been lower on the other attributes making up the scale due to a change in the curriculum caused by adoption of the course to snow conditions.

C. Total Self Evaluation and Outdoor Self Evaluation

The quantitative data in Table 13 (p. 92) suggested a modest but significant corresponding change in the TSE as well as the OSE. When one considers that Outdoorsman Self Identity is only one aspect of the TSI, any move whatsoever on its part is indicative of the immediate effect of OSI. The quantitative data (B. 1, p. 145) indicate that the subjects felt a real feeling of accomplishment in overcoming the rigors of the experience.

> Felt a strong desire to get home but felt I was returning much more a person than when I left. I had a strong feeling of accomplishment, felt I had learned quite a bit and gained insight into the reasons why one would want to go into the bush. (B. 1, p. 145)

Question AII: What is the Effect of Unique Case Modification on Leadership, Group, Environmental or Curricular Processes on the Self-Actualization of Composite Outdoor Self, Specific Self, Attitude Factors and on Total Self Evaluation?

The unique treatment for this case is found in A. (p. 141) where the most crucial influence was the impact of environment.

A. Leadership

The leadership team was reduced to three people (1), (2) and (6). The new instructor (6) from the Biology Department, Camrose Lutheran College, was only able to be with the Case on the expeditions. Leader (2) could only come for the canoe expedition and then assumed more the role of a helper to (1) and (6) rather than an integral part of the leadership team, as he had in Case A. The knowledge of Leader (6) in outdoor skills, and his rapport with the Ss had a strong impact on the overall effect of the experience. The subjects felt confident in his ability to help the leadership team bring them through the stress situation successfully.

B. Group Modification

The unique treatment effect on the Case were the debriefing sessions held to enable the subjects to share their feelings about the experience. These sessions were held before the trip and after each of the expeditions. This structure enabled the Ss to clear the air and with the whole group sharing where they were at in the experience, it helped others in their understanding.

> I thought our debriefing was very valuable. It brought out an overall picture of what was happening and reinforced what we had learned. I think it was quite beneficial to the success of the trip. (B. 2, p. 146)

Not only was the process beneficial to an overall understanding of the experience but it was beneficial in helping the members of the P-groups to function together more effectively. The Referent Others (RO) rated those aspects of interpersonal relations higher than the subjects on Scales 1--Sensory Awareness Outdoorsman and 3--Outdoor Group Leader (A. 7, p. 145).

C. Environment

The adverse weather conditions were the key factors in bringing about an emphasis on skills, group cohesion and sensory awareness in this Case study. River canoeing, snowshoeing and camping under such cold conditions, reinforced the importance of skill acquisition for survival and a great respect for the power of nature. In addition there was enough sunshine and clear nights to make a good contrast between the extremes of nature. This created a feeling of overcoming in terms of TSI, OSI and a high rating on Scale 1--Sensory Awareness Outdoorsman, Scale 2--Skilled Outdoorsman and Scale 4--Outdoor Sportsman.

D. Curricular Elements

Due to the snow condition the curriculum had to be changed somewhat to include snowshoeing, ice fishing, group projects and winter survival. This change did not appear to detract from the overall scores, however it could have affected the results on Scale 4 in that map and compass, followed by orienteering, was dropped. The change in curriculum did not detract from the general feeling that this group was going to meet the challenge and succeed.

This type of survival experience did emphasize the use of tools and the importance of fundamental skills which can be strongly related to the high significant score on Scale 2--Skilled Outdoorsman.

Question AIII: What is the Effect of Subjective and Objective Public Evaluation on the Self Actualization of Composite Outdoor Self and of Specific Outdoor Factors?

In Table 14 (p. 94) one finds there is no significant difference between the post test scores in the OPE and those of the OSE. This finding indicates that the Ss are saying the same things about themselves as are being perceived in them by their peers. The only factor where the difference is close to being significant is in Scale 2--Skilled Outdoorsman where OPE   SE revealing that the Ss perceive others performing the skills better than they see themselves performing the skills. On the other hand the evaluation of Scale 1--Sensory Awareness Outdoorsman is SE   OPE due to the possible fact that it is more difficult to evaluate internal characteristics and feelings. The change that occurred for OPE and SE on the whole when compared is not significant. The SE changed much more in its evaluation than the OPE. Which could also mean on the pre test the Ss tended to score their peers higher than themselves.

B. OUTCOMES OF OUTDOOR GROUP EXPERIENCES AS THEY RELATE TO LEADERS, REFERENT OTHERS AND SUBJECTS 'IMPORTANCE' RATINGS OF SPECIFIC OUTDOOR SELF FACTORS

Question BI: What if any is the Unique Effect of the Value Leaders Place on the Importance of Specific Factors in the Outdoor Experience?

Leaders in responding to the 'importance' aspect of the inventory had a high overall mean of 8.387 (Table 16, p. 98). The differences in the four scale means and the differences between Cases were not significant.

It can be assumed from this data that the Leaders were next to unison in the weight they gave to the four scales. Since one cannot predict any differences it has to be concluded that Case by Case there was no difference in the emphasis placed on any area by the leadership team. This strong emphasis on the values indicates the leaders for this Case are stressing the importance of all the factors. The only problem encountered is that the period of time Leader (2) was able to be with the Ss was limited to the canoe expedition and as a result his overall impact was reduced. Leader (6) though only on the expeditions was also in contact with the students in other courses and as Dean of Students.

Question BII: What is the Relationship Between the Value Leaders Place on the 'Importance' Ratings of Self Attitude Factors and the Response to Those Factors by Referent Others and Subjects?

The evidence shows (Table 25, p. 145) that the RO are closer in their importance ratings to the values rated by the leaders. The only significant change for both RO and the Ss is in Scale 4--Outdoor Sportsman. It can be observed that in the post scores there is a greater tendency for both Ss and RO to be farther away from the leaders than is evident in most other cases. This phenomenon may have occurred because the subjects initially on the pre test did not see the values as important and scored low (Table 17, p. 100) on Scales 1, 2, 3, 4, then when they responded on the post test since it was on stress experience they did not see the values of outdoorsman as being that 'important' since they had already succeeded in overcoming the challenge. It is suspected it is another dimension that is more important of which we have no measure at this date.

Leaders in this case all had a high regard for the outdoors particularly in the area of outdoor sporting activities. They were highly skilled in the outdoors but did not rate as 'important' to their self evaluation outdoor skills. It may be concluded that as they became more conscious of their leadership roles their concern changed to the two other areas defined by Scales 1 and 3.

Question BIII: What Characteristics were Evident that may have Caused the Ss to Choose their Peers as Referent Others in each Case?

The RO chosen in this case were people who first of all had the ability to relate to others, not only in terms of giving leadership but in terms of communication. On the whole they were quieter than those in Case A, not as confident or skilled in leadership or experience with groups. Four of the students were athletes and were physically capable or coping, three were from the farm and capable of using a variety of tools. All of them tended to make others feel comfortable in their presence. Not all of them were the forceful task leaders in the groups but all tended to be socio-emotional in their orientation. As a group they were well organized and effective when they chose to work. All had assumed a leadership or lieutenant position in their respective groups.

In conclusion it would appear that the stable, even-tempered, socio-emotional person who can meet the stress of the situation in a tough-minded and organized way and who identifies with the leadership team's value system became the RO of this Case study.

CASE C

I. PROGRAM AND TREATMENT EFFECT

Introduction

Case study C was carried out in the fall semester of 1974. The time of the year, the structure, and the subjects were somewhat similar to Case B. However the treatment administered was one of the most unique of all the Cases. A religious group dynamics course 200X was tied to the course as an aid to group development and personal growth.

Subjects (N = 18)

The subjects in the study were students in first and second year University from Camrose Lutheran College. The Case consisted of 10 male and 8 female subjects with an average age of 18.8 years. Their outdoor experience consisted primarily of farming (22.2%), travel (27.8%) and parks (13.9%). Their experience in group camping came from private camping (25%), scouting (16.7%), and family camping (16.7%). Their response given as to why they were in the course was higher in "Want to improve my camping skills" (33.3%) than any other group; an equal balance of 19.4 percent was found between "Know more about Outdoor Education" and "Interested in this type of camping". Of the samples taken from the fall courses this group showed a greater interest in teaching (11.1%) than Case B (6.2%) or Case E (9.5%).

Ascribed Leaders

The leadership team consisted of the investigator (1), Leader (6) from the Biology Department who joined this course only for the backpacking trip and a staff member (7) from the Religious Education Department.

1. - Refer to Case A, page 108.

6. - Refer to Case B, page 135.

7. - Male, (54), married, M.A. in Sacred Theology and Pastoral Counselling, minister, college chaplain, athlete, river canoeist, hunter and competent outdoorsman. A quiet sense of humour and a depth of understanding in human relations. High level of religious interest and commitment to Christianity.

Ascribed Leaders Orientation

Leaders (1), (6) and (7) spent a short period of time attempting to coordinate their schedules and planning to incorporate the religious studies group dynamics course with P.E. 280. It was felt that since all students attending the College have to take a religious studies course a coordination of these two courses would be worthwhile addition to the treatment effect. Leader (6) only participated in the first expedition due to heavy teaching pressures. Leader (7) was present on the canoe expedition, and attended the majority of the Religious 200X sessions.

Group Organization and Function

The group structure and organization was the same as that outlined for Case A.. The differences that resulted were:

1. The P-groups were smaller in number with a maximum of 5 members each for two groups and 4 members each for two groups. One P-group as a result of having a girl withdraw from the course had 3 boys and 1 girl.
2. In the extra periods devoted to Christian group dynamics each of the P-groups worked as a unit on interpersonal problems and

communication skills.

Curriculum Elements

As with Case B the treatment effect would not be as concentrated due to having the course over a longer period of time in class sessions throughout the fall semester. Since all the students in the P.E. 280 class were also programmed into Religious Studies 200X this meant extra periods were spent during each week on a subject related to the P.E. 280 course. To escape the extremely cold weather experienced in the fall of 1973, the fall expeditions were advanced. The backpack trip took place September 19-22, with the canoe trip on October 9-14 during the Thanksgiving weekend.

Orientation, Camrose Lutheran College - September 8-18. Since the backpack expedition was to be advanced to September 19th weekend, all the preparation had to occur in the first five lectures:

1. Introduction to the course objectives, followed by discussion of clothing and equipment needs.
2. Lecture and discussion of the value system the subjects were expected to function under and the allocation of persons to P-groups (cooking groups).
3. Menu planning by the P-groups, purchase and packaging of food.
4. Checking of equipment by Leaders with students before departure.

Badlands Expedition, Donalda - September 19-22. The instruction in this section was organized to introduce the subjects to the skills of low impact camping. The items and teaching situations were organized to fulfill this objective:

1. Travelled by van to an abandoned farm next to the Badlands where we spent some time discussing the backup rescue strategies that would be used in case of an emergency.

2. Since it was nearly dark on arrival we travelled by dark toward a water source. This experience provided an opportunity to hear night sounds and learn dependence on the leadership team.
3. Made dry camp, when rain threatened. This meant a small fire on open ground without humus soil. Conservation of water only for essentials. Next morning before leaving taught outdoor communication by whistle; one whistle, I'm here; two whistles, I'm coming; and three whistles, come over here.
4. The following day was bright and clear. We travelled through the canyons and simulated a deep river crossing using ropes.
5. As we travelled special attention was given to direction finding and the observation of some of the natural history in the area.
6. Camped on a long neck of land near the Battle River. Instruction was given on the types of leantos to be used, organization of camping area, and purification of water.
7. Instruction was given on sharpening tools, the making of feather sticks and bannock.
8. A limited time was spent teaching the basics of Map and Compass. This was followed by an exercise on following compass bearings, for over a mile distance.
9. Nature walks were taken in the area to explain the flora and fauna.
10. An informal campfire was held one evening, the other evening was spent learning how to play wide games. On Sunday morning before we left the area a worship service was held on the top of one of the bare knolls in the area where you could look for miles down the valley.

Camrose Lutheran College - September 22-October 8. This time was spent assessing the results of the backpack trip and preparing for the canoe trip:

1. Debriefing sessions were held for each cooking group and for total camp group with Leaders (1) and (7) facilitating the interactions.
2. Leader (7) used human relations skills and Bible study to help students assess individual and group behavior on the first trip in religious education class time.
3. Canoe practice was held on Mirror Lake which included all the basic strokes necessary for river travel. Canoe rescue techniques were shown using subjects that had involuntarily tipped due to carelessness.
4. The basic elements of first aid were discussed and practised by the students.
5. A review of the clothing needs, menu changes and equipment for the trip was conducted by Leaders (1) and (6).

North Saskatchewan River - October 9-14. On the river expedition the subjects were in the most part exposed to these experiences:

1. Travelled by van to Rocky Mountain House. Crossed river and chose campsites--then paddled upriver where canoeing techniques of back ferrying, reading current, negotiation of rapids and eddy turns were practised.
2. In the morning instruction was given on how to leave the campsite, put out fires, stack poles and wood, this was followed by techniques on how to pack canoes.
3. Instruction was given on how to travel in convoy down the river. Members of the group had the opportunity to rescue some subjects when they and their canoes tipped in the rapids.
4. Total camp sharing of experiences and feelings regarding the canoe trip were held on the evening of the second day.

5. We camped at the Brazeau river where the subjects saw how a unique log cabin had been made. We then towed the canoes up the Brazeau to a beautiful camping site close to an open meadow. We did not see any game due to the fact that it was hunting season. All the subjects became aware of wearing bright clothing when some hunters came up the Brazeau river in a power boat.
6. Students experienced impact of man on the environment when the Brazeau river receded to a mere trickle due to the shutting off of the dam upstream. Everyone then had to practise negotiating rocks and shoals to get their canoes back to the Saskatchewan river.
7. A night of stormy weather tested everyone as we not only had to paddle in the wind, but set up our camps under the pressure of rain and darkness.
8. A worship service led by students was conducted drifting down the river while the canoes were rafted up. It was much like a time of meditation and talking about personal experience with God.
9. Attention was given to the plants and animal life along the river by Leader (1). Special note was taken regarding the impact of man upon the river and the resulting pollution one experiences the farther one travels down stream.
10. The pick up was at the Devon bridge where the canoes were cleaned and equipment sorted for the ride home.
11. Each morning of the trip, just before we left the camp a thought for the day of inspiration or faith was shared with the subjects.

Camrose Lutheran College - Oct. 15-Nov. 29. The time spent in class for the P.E. 280 part of the course was reduced to accommodate for the time taken on the expeditions. The areas covered during the period were:

1. Debriefing of P-groups followed by a total group session at a private home.
2. Religious Education 200X continued at bi-weekly intervals but slowly lost its significance as its structures came from the personal interaction in the groups while on the expeditions.
3. Mr. Dennis Wighton from the University Department of Genetics presented his informative and worthwhile lecture on resources, technology, pollution and over population.
4. The students attended the Provincial Hearings on the use of Herbicides and Insecticides in Alberta. This was a very significant session on how people can be swayed by the effective presentations by different power groups.
5. A number of lectures were given on resident camping and to the philosophy of Outdoor Education and a World View concept of living.
6. The post-test Inventory was given on Nov. 25th at the termination of the lectures.

Environment

Terrain. The terrain used for the back-packing trip was southeast of Camrose in an area that is covered with a variety of land forms, high hills, deep ravines, grassy coves, sagebrush, willow and trembling aspen. It appears to be the center of a vast coal deposit that burnt out after the last glacial age leaving an area known for its lack of good water in the springs, and water holes. In September the beauty of this particular section of country is next to spectacular with its variety of colours.

The North Saskatchewan river from Rocky Mountain House to Devon provides a wide variety of river terrain. The activity of man is practically nil on the upper section of the river with increasing impact occurring as one proceeds down river.

Weather. The weather was on the whole balmy and warm, with clear skies. Only one day on the river was cool with rain and wind. The wind was of such a magnitude that the canoes had to weather the storm on shore.

Program and Treatment Effects Unique to Case C

The emphases considered for this case were:

1. The inclusion of Christian group dynamics Religion 200X as an aspect of the course was an experiment that had never been tried in other courses. As with all courses we still had the inspirational thought for the day and one outdoor worship service.

2. There was an increased use of total group debriefing sessions to share the experiences of the community to help people understand each other and reinforce the community goals and the small P-group sessions where attempts were made to clear personality and operational conflicts.

3. The structure of the course was changed to schedule the backpacking expedition at an earlier data in order to facilitate more leisurely learning of camping skills before attempting the endurance test on the river. In addition it was hoped we would avoid the below zero weather and the winter camping in our "Introductory Outdoor Education Course."

4. A complete outline of the course was given to the subjects including philosophy, objectives, text books. Outline, reference books, assignments and equipment.

5. A thorough session on back up procedures, prevention of emergencies, techqniues for rescue and evacuation was outlined.

II. SUMMATION OF QUANTITATIVE AND QUALITATIVE DATA FOR CASE C

A. Results of Inventory

The inventory provides quantitative data that has been reduced to the material that is pertinent to this Case. The data has been organized in the following order:

1. Composite Outdoor Self. Case C (Table 11, p. 90) when compared in total to all the other Cases has the least significant change when compared to the control. Case C .620--Control .210.

2. Outdoor Self Scale Change. In Table 26 (p. 167) the scale comparisons are outlined in order showing where Case C had made the least significant change of any Case in all scales with the exclusion of Scale 4--Outdoor Sportsman. However even here as demonstrated Case C is the lowest score on the continuum.

3. Outdoor Self Evaluation and its Effects on Total Self Evaluation. Data in Table 13 (p. 92) shows a low but significant relationship between the OSE and TSE. A modest correlation at the .05 level of significance reveals that the change is so small that a TSE of -0.222 is not really affected by a change of OSE of .620.

4. Objective Public Evaluation and Self Evaluation on the Post Test. On Table 14 (p. 94) one finds that there is no significant difference between the SE and the OPE. The exception is Scale 2--Skilled Outdoorsman where the difference between OPE and OSE is significant at the .05 level. The most crucial finding is that the OPE on the post test are all lower than other Cases in the investigation.

5. Relationship between Change in Objective Public Evaluation and Self Evaluation. As with all Cases (Table 15, p. 96) the T-test shows there is a significant difference in how the OPE rates the Ss and how

Table 26

SUMMARY OF OUTDOOR SELF IDENTITY CHANGE ON THE FOUR SCALES AS MEASURED BY THE SCHEFFE STATISTIC PROCEDURE FOR CASE C (TABLE 11, p. 90)

Scale	Relationship
1 Sensory Awareness Outdoorsman	- CASE C --Control - Case C .222 -- Control .068 - Case D 1.018
2 Skilled Outdoorsman	- CASE C --Control - Case C .811 -- Control .517 - Case D 1.225
3 Outdoor Group Leader	- CASE C --Control - Case C .411 -- Control .081 - Case D .900
4 Outdoor Sportsman	- CASE A, D, E, B, C ≥ Control - Case C 1.574 - Case B 1.792 ≥ Control .265 - Case E 2.175

they rated themselves in the change process from T_1 to T_2. However there is none to a little bit of agreement with respect to the relative amount of significant change in the total group. If one observes Scale 2--Skilled Outdoorsman and 4--Outdoor Sportsman there is a low but significant correlation between SE and OPE. Particularly in Scale 4--Outdoor Sportsman Psr = .6329. sign. .002, which shows a reasonably high correlation between the change as perceived by both S and OP.

6. Leaders. The data shows that the Leaders in all Cases had no significant difference in terms of the 'importance' ratings they attributed to the four scales (Table 16, p. 98).

7. Leader, Referent Others and Subjects. In this Case on the post test (Table 27) the Referent Others are all closer or beyond the values of

Table 27

SUMMATION OF RELATIONSHIPS BETWEEN LEADERS REFERENT OTHERS AND SUBJECTS IN CASE C ON THE 'IMPORTANCE' RATINGS T_1 AND T_2 (TABLES 18, 19, 20, 21)

Scales		Pre^1	Post$_2$	Direction	Total Change	Prob.
1 Sensory Awareness Outdoorsman	1 Subject	-1.165	-1.333	-0.168		NS
	2 Referent	-0.226	-0.691	-0.465		
2 Skilled Outdoorsman	1 Subject	-0.307	-0.650	-0.343	Subject -.454	NS
	2 Referent	-0.100	-0.225	-0.125		
3 Outdoor Group Leader	1 Subject	-1.388	-1.331	+0.057	Referent Other -0.090	NS
	2 Referent	-0.267	-0.017	+0.250		
4 Outdoor Sportsman	1 Subject	+0.095	+0.095	+0.000		NS
	2 Referent	+0.417	+0.667	+0.250		

importance placed by the leaders on the scales. The Ss regress from the leaders value ratings in Scale 1-Sensory Awareness Outdoorsman and 2-Skilled Outdoorsman and stay relatively the same on the pre and post test for Scale 3-Outdoor Group Leader and 4-Outdoor Sportsman. The RO make negative moves on Scale 1 and 2 and positive moves on Scale 3 and 4.

It can be concluded that the RO are closer to the leaders on the post test and in terms of change did not move as far away from the leaders as the Ss.

B. Results of Interviews and Diaries

The interviews were taken one week after the canoe expedition and the diaries were submitted at the same time. This data is a synthesis of the interviews, diaries, and the observations by the investigator. (A complete outline of the procedures used to maintain an element of objectivity in the data collection process is found in Case A (p. 120).

1. What was your overall impression of the experience?

> There's one thing I've found that really has been outstanding on this trip--I've learned to get along, appreciate and accept people for what they are. I have learned to bend with them instead of expecting them to bend in their ways to make me happy.
>
> What I got out of this trip can never be given a grade or mark. It was life and I was part of it. The things I learned I'll never forget--to me it doesn't really matter about the scholastic part. I got 100 percent out of those five days.
>
> Would have liked the trip to last longer--next time would be better prepared--thankful for the course and the knowledge and friendship I gained.
>
> The trip will always be a great memory even if I didn't enjoy parts of it that much. I noticed the North Saskatchewan River was not as large as I had thought. Especially when there were many cities, towns and farmers who were dependent upon its water. Each city or place takes the good water and throws away the bad--if this continues along the line--then what?
>
> We all rafted up and began our thanksgiving and Sunday combined service. We just drifted down the river as we reflected on others' thoughts as well as our own--it was a happening we'll never forget, so thought provoking and interesting.

The consensus is that as people they all grew the most in learning to understand themselves and others. There was a strong feeling that they grew in skills and a greater appreciation for nature. Some liked the religious aspect of the course, but felt it dragged on too long after without any purpose. They felt people began to clam up when the religious aspect became formalized. Others felt the religious emphasis divided the community into those who were the strong religious types and those who were different in their belief. In addition there was a negative response to the lecture aspect of the P.E. 280 course following the outdoor field trip. The move from experiential learning to lecture was too great a shift for many to appreciate.

2. What did you learn from living in a group for such a period of time in the outdoor setting? In discussing the group activity that occurred most students thought that it helped them to start to open up and share. Others felt that the focus on the dynamics of group interaction only deterred from the real sharing that could have taken place. At least most felt they learned to understand each other better because of the experience.

> Really beginning to realize that my first judgements of the people in my group were wrong. They have all been good, carry their weight--no fighting or arguing--truly a beautiful atmosphere.
>
> No cohesion or common band that seems to keep our group together. We only stay together during meals and at sleeping. Don't think this is unusual but notice lack of camaraderie more evident in other groups. Our closeness to other camps has not really forced us together that much.
>
> I feel I've grown because now I can express my feelings and my individualism is less evident, plus I got to know a lot of people much better.
>
> We could get along so much better if each of us would have a bit more respect for the other person.
>
> I don't think I could have wanted any finer people to be in the out of doors with, different backgrounds, different personalities and different upbringing didn't matter--everyone clicked and worked together.
>
> That's one thing I've found that really has been outstanding on this trip. I've learned to get along, appreciate and accept people for what they are. I have learned to bend with them instead of expecting them to bend in their ways to make me happy.

3. What if any effect did living in the outdoor environment have on you as a person? The chief comments were on the beauty of nature and enjoyment of the storm.

> I came up on top of this hill and looked out into the valley. It is so beautiful, the autumn colours are so bright. It seems like you can see for miles around you. I really wish we didn't have to go home today.

It was a beautiful camping spot and the big dipper and northern lights added to the scene.

Such beautiful scenery, colours of gold and rust against the dark evergreen, and bare scars, crowds of grey poplars, stay at times so blue with billowing grey clouds--winding river, fun times in rapids--leaves falling like confetti; winding river, swiftly flowing through beautiful God painted scenery.

Realize now that everyone can appreciate beauty like the mountains that slaps you in the face, but it takes somewhat of an artist, someone with deeper perception to be able to notice and draw out the beauty of less spectacular places such as these.

The total purpose of this day would have been lost if that wind hadn't come up. Without the storm this would have been just another day--we learned from today to overcome--my emotions were put to the test and my body is sore and tired.

This was one of the most beautiful sights ever, the northern lights are dancing uncontrollably. It is unbelievable, patterns to be experienced for short moments, the wind is blowing and adding to the scene.

4. Do you think you have gained the skill training you need to be a competent outdoorsman?

Learned to pick campsites for shelter and how to pack equipment--good.

Our leantos are becoming a real work of art.

Happy to see how a leanto really should be put up--other times were purely experimental efforts.

I felt super proud of being able to start a fire right off with one match under these terrible conditions.

Had bannock making demonstration--everyone got motivated more or less--the bannock was surprisingly good.

X learned a lot of things he had pictured himself doing, but had never done before--saw himself growing in most of the skills.

When I look at the organization our group has built compared to our backpacking trip, I can understand why Leader (1) kept all the groups the same and didn't change them.

5. What have you learned about outdoor group leadership for your experience? The consensus is that there were no aggressive leaders, one person would initiate activity and the rest would fit in where needed. In contrast to Case B, since the weather on the whole was warm and clear, there was less need for individuals to assert themselves in the same manner to cope with the situation.

> X tries to split up jobs to get everyone involved but somehow ends up doing most of the work.
>
> I must learn to instruct or direct in a manner where I don't sound bossy or create tension, although some things really have to be done now not tomorrow.
>
> X surprises me the way he has become one of the fun leaders in our group. He always has the simple non-personal jobs which loosen up any tense situation.
>
> Everyone is exhausted, the group seems to sense everybody's condition and the stronger ones do more work without any noticeable grudge--as soon as supper's over everyone to bed.

6. What was your response to the outdoor sportsman experience of physical endurance, canoeing and orienteering?

> Did a pretty good job of getting to our destination. On the way back I found my own way alone, which made me feel good.
>
> As it turned out it was a rough ride. There was more white water than there had been anywhere else on the river. What a blast, we were backpaddling the whole way just so the water wouldn't come over the bow and sink us--I was really scared but we made it.
>
> I really enjoyed the orienteering work and finding my way through the hills.
>
> I wanted to learn how to canoe and now I have done it. I enjoyed the rapids so much--I have more confidence in myself now.
>
> This afternoon quite a few people were tired and falling back. We had a real strong wind blowing against us, no matter what way the river turned it seemed like we were heading right into it.
>
> The trip was an endurance contest and I found out I could do it which was a great feeling.

III. SYNTHESIS OF DATA AND CONCLUSIONS FOR CASE C

This section contains a synthesis of the quantitative and qualitative data presented and discussed.

A. OUTCOMES OF OUTDOOR GROUP EXPERIENCES RE SPECIFIC OBJECTIVES AND CORRESPONDING SELF EVALUATION ON SELF ACTUALIZATION

Question AI: What is the Effect of the General Outdoor Education Group Experience on the Self Actualization of Composite Outdoor Self, Specific Outdoor Self Attributes Factors, and Total Self Evaluation?

A. Composite Outdoor Self (SI)

The inventory assessment indicates little change in the total Case except in the area of Outdoor Sportsman. The interviews would confirm this result in terms of the whole group yet in terms of individuals we find some strong statements regarding themselves and the outdoors.

> What I got out of this trip can never be given a grade or mark. It was life and I was part of it. The things I learned I'll never forget--to me it doesn't really matter about the scholastic part. I got 100 percent out of these five days (referring to canoe expedition). (B. 1, p. 169)

> I feel I've grown because now I can express my feelings and my individualism is less evident, plus I got to know a lot of people much better. (B. 2, p. 170)

The evidence appears to suggest that the total OSI seemed to regress as the course was carried into the fall. On the other hand the results on the inventory may have resulted from a variety of in-course and out-of-course situations. Whatever the reasons OSI did not appreciably change for the whole Case.

B. Outdoor Self Attribute Factors

The evidence in Table 26 (p. 167) indicates that there was no significant change in Scale 1--Sensory Awareness Outdoorsman, Scale 2--Skilled Outdoorsman and Scale 3--Outdoor Group Leader. In Scale 4--Outdoor Sportsman, there was a significant change over that of the control yet Case C was still the lowest on the Case continuum in its response. A separate discussion will take place on each scale:

B^1 Sensory Awareness Outdoorsman

1. Group Interaction. The qualitative data points out that through the experience of working with people in a group the subjects learned a great deal about living in a family from an analytical point of view. Whether they became more sensitive and aware is questionable when one views the results of the quantitative data. The consensus was that most of the Ss felt it helped them to open up and share how they felt about conflict. This was not easy and was not accomplished by everyone--yet reliable statements were made in this regard showing a strong emphasis in this area by everyone.

> One thing I've found that really has been outstanding on this trip, I've learned to get along, appreciate and accept people for what they are. I have learned to bend with them instead of expecting them to bend in their ways to make me happy. (B. 2, p. 170)

On the other hand after the trip was over the shift from interpersonal group behavior from a Christian stance tended to move into those elements of belief that were beyond Christian community. This occurred for two reasons, first, there were no longer real P-group living conflicts that involved an investment and secondly, the natural progression was to move from ethics to belief. This progression led to a polarization of the group where those who were highly religious had a feeling of being an in-group, and those who had different ideas were the out-group. As a result what outdoor community feeling that had developed disintegrated more rapidly than would normally have been the case.

2. Environment. Even though the overall response by the subjects does not indicate a significant change in sensory awareness the qualitative data points out that following the second expedition individuals did reveal that they were affected by the environment.

> Such beautiful scenery, colours of gold and rust against the dark evergreen, and bare scars, crowds of grey poplars, sky at times so blue with billowy grey clouds--winding river, fun times in rapids--leaves falling like confetti, winding river swiftly flowing through beautiful God painted scenery. (B. 3, p. 171)

The comments on the beauty of nature and its goodness were more pronounced with this Case than with Case B but as can be verified not as powerful as that of Case A. The subjects responded positively to the storm in the measure of a challenge.

> The total purpose of this day would have been lost if that wind hadn't come up. Without the storm this would have been just another day--we learned from today to overcome--my emotions were put to the test and my body is sore and tired. (B. 3, p. 171)

This is one of the rare references to overcoming the stress of the situation whereas the theme throughout Case B was one of overcoming not only oneself but the ongoing day-to-day challenge of nature.

The conclusion that is drawn from this section is that certain external or internal variables occurred between the expedition and the response on the inventory that created a negative response by the Ss.

B Skilled Outdoorsman. Even though this was one of the areas that Case C stated was their chief interest (33.3%) in taking the course there was no significant change in this area. The results on the Scheffe procedure indicate only a difference of .154 between Case C and the control. The subjective data confirms this result through a number of favourable comments regarding progress in the skills area were evident. This general area was not deemed overly important even though some individuals expressed a sense of accomplishment.

> Our leantos are becoming a real work of art. (B. 4, p. 171)
>
> I felt super proud of being able to start a fire right off with one match under these terrible conditions. (B. 4, p. 171)

B^3 Outdoor Group Leader. The data from both quantitative and qualitative indicate that this area changed little on the part of the subjects. The treatment effect was not of a magnitude to force Ss into strong leader roles nor was the stress of the experience tough enough to accentuate leadership values.

B^4 Outdoor Sportsman. The quantitative data in Table 26 (p. 167) shows that there was a significant change in the subjects in this factor. On the continuum Case C has the lowest score which is consistent with the pattern established by this group. Qualitative reports support a strong response to this area, with an added emphasis on compass work that was nearly non-existent in Case B. The assumption that can be concluded is that the effect of the factor, outdoor sportsman, was strong enough to establish a long range change. The teaching of orienteering following the canoe expedition may also have been a contributing factor to the quantitative response.

C. Total Self Evaluation and Outdoor Self Evaluation

The data in Table 13 (p. 92) shows a modest correlation between TSE and OSE evaluation at the .04 probability level. It becomes apparent that the change in the OSE was such that a small negative regression in the TSE could be tolerated. It became obvious from the T value 2.98 (prob. .004) that the spread was not that great between the OSE and TSE. Whether it can be postulated that the low SE produced a negative but significant TSE is open to question, this however is exactly what the data indicates.

The responses from the qualitative data indicate that although there was an appreciating of the various experiences on the trip there was no dramatic feeling of accomplishment, on the overcoming of a challenge, from the experience. There were more comments that they felt more capable of understanding and working with people, appreciating nature and some craft skills, however the overall feeling of accomplishment was not as evident as the other Cases.

Question AII: What is the Effect of Unique Group Modification of Leadership, Group, Environmental or Curricular Processes on Self Actualization of Specific Outdoor Self Attribute Factors, Composite Outdoor Self and Total Self Evaluation?

The unique experiences undertaken by the Case are found under: Unique Program and Treatment Effects (p. 165).

A. Leadership

The quantitative data shows there was no significant difference between the leadership emphasis in this Case and others. The observation by the investigator is that this Case missed the diversity of young leaders that were evident in Case A and to a minor extent in Case B when Leader (2) accompanied the canoe expedition. The possibility of a variety of models subscribing to the same value emphasis but fitting the expectations more than Leaders (1), (6) and (7) were able to in the setting would have had more positive implications. In addition Leader (7) could not be with the group during the backpack session and Leader (6) was absent during the canoe session which had the effect of some fragmentation on the continuity of model influence.

B. Group Modification

The increase in debriefing and interpersonal skills did help the individuals in the groups share and give voice to the problem of people from different backgrounds living as a family for a period of time. Since this process was a new strategy for Leader (1) not enough monitoring of this activity was done during the expeditions themselves which reduced the effectiveness of the process through inappropriate timing. The concentrated work in this area occurred after each expedition, rather than on the expedition itself. The large group sharing session on the canoe trip did help to prepare the P-group for their own sessions at a later data.

C. Environment

The warm weather and beauty of the days on both expeditions provided a positive emphasis in this direction yet negated the challenge experienced by Case B in overcoming. In addition since the level of the river was low the challenge of the exciting rapids was diminished as was the time spent learning to negotiate the white water that occurred in Cases A, D and E.

D. Curriculum Elements

Inclusion of Religious Education 200X: This new curriculum element dominated the whole of the course in a profound way. Its inclusion was to make the Religious Studies Group Dynamics course more meaningful to the students since it would be tied to a real life situation. It was also included since one of the key areas for a good outdoor experience is dependent upon good personal relationships. The initial idea was good and what was learned by both students and Leaders was worthwhile, however the negative aspect of the experiment occurred when the emphasis shifted from dealing with the Christian ethics of living together to a discussion of personal belief. In the sessions the investigator observed that confrontations became more emotional, and at the same time a number clammed up to avoid involvement in the group. Many of the sessions tended to be subject led since Leader (7) could not always be in attendance. The overall effect of this aspect led to a disintegration of the group feeling that had developed during the expedition and the early part of the course.

The changing of the course structure to include the backpacking trip early in the semester had beneficial results in that the subjects had time to establish relationships and learn the basics in camping at a more leisurely pace before the endurance session on the river. The programming of both expeditions for the early part of the semester eliminated the conflict of interests experienced by students in Case B that resulted in negative feedback for the course. In addition since the canoe expedition was rated as the toughest of the experiences and also the highlight of the course it meant building toward the mountain peak rather than the reverse of having the highlighted experience first and then coming down to an experience that is less demanding in magnitude and more related to what people from an area would expect to do on their own. This structuring was the same as used in Case E with different results in the post aspect. In Case C we shifted from an experimental approach in P.E.280 to a lecture approach. After the orienteering was over Leader (1) gave a series of lectures on the Philosophy and World View of Outdoor Education. The topic was of importance, but the approach and timing were not conducive to a positive response since the parallel course Religious Education 200X was going through a similar reaction on the part of the students. It is the suggestion of the investigator the cumulative effect caused by these aspects affected a negative post test response to the inventory.

Question AIII: What is the Effect of Subjective and Objective Public Evaluation on the Self Actualization of Composite Outdoor Self and Specific Self Attribute Factors?

It was found (A. 3, p. 166) that there was little significant difference between the OPE and that of the OSE. The way the Ss saw themselves at the end of the course was similar to the way those in their P-groups rated them. When the Scales were analyzed individually it was found that on Scale 2--Skilled Outdoorsman the OPE was greater than that of the OSE. Comparison between Table 14 (p. 94) and Table 15 (p. 96) revealed that the Ss rated themselves lower on the pre test than their peers and were still lower on the post test except for Scale 1--Sensory Awareness Outdoorsman. It is of worth to note that in this Case the OPE is lower for the Ss than for all other cases indicating a lower level of regard by the OPE for their peers than in other Cases. This is not to say that they did not respond more objectively, but that they appeared to display a greater positive regard for their peers.

In comparing the changes that occurred from pre to post test one finds that in all Cases the OPE changed less than the OSE. A modest change took place for all Cases in Scale 2 and Scale 4.

B. OUTCOMES OF OUTDOOR GROUP EXPERIENCES AS THEY RELATE TO LEADERS, REFERENT OTHERS AND SUBJECTS 'IMPORTANCE' RATINGS OF SPECIFIC OUTDOOR SELF FACTORS

Question BI: What if any is the Unique Effect of the Value Leaders Place on the Importance of Specific Factors in the Outdoor Experience?

Leaders in responding to the 'importance' aspect of the inventory had a high overall mean of 8.387 (Table 16, p. 98). The differences between the four scale means and their response on the four scales were not significant. Further discussion on this question can be found on page 99.

Question BII: What is the Relationship between the Value Leaders Place on the 'Importance' Rating of Self Attitude Factors and the Response to Those Factors by Referent Others and Subjects?

In all Scales 1, 2, 3 (Table 27, p. 168) the RO are closer to the Leaders' importance rating. They move beyond the Leaders by +0.667 points in the area of Scale 4--Skilled Outdoorsman, are within -0.017 points of the Leaders in Scale 3--Outdoor Group Leader.

In the change pattern from pre to post, the RO regressed in both Scale 2--Skilled Outdoorsman (-0.125) and Scale 1--Sensory Awareness Outdoorsman (-0.465).

Though the tendency is not significant there is a slight positive trend for the Ss on Scales 3 and 4 and a regression for Scales 1 and 2.

As with other Cases the Ss and the RO practise an interesting trend on Scale 4--Outdoor Sportsman where the Ss stay at +0.095 and the RO move to +0.667 points.

It is suggested the orienteering that was carried out after the canoe expedition helped to sustain this scale response.

We can conclude that the RO on the post test were closer or beyond the Leaders' scores while positive change from T_1 to T_2 toward the Leaders' values only occurred in Scale 4.

Question BIII: What Characteristics were Evident that Caused the Subjects to Choose their Peers as Referent Others in each Case?

Those students chosen as RO in this Case possessed a mixture of skill knowledge and socio-emotional ability. Their strongest characteristics appeared to be their strength as persons in coping with the challenge of the trip in terms of physical prowess, good judgement and a sense of humour. Their second most pronounced characteristic was their ability to talk and relate to people on the trip. The fourth leader who did not rate as high as the others had not developed this ability to any real extent, however gave the impression that he was sympathetic to any problems that people were experiencing. All four were popular athletes in their own right and therefore were assessed as desirable before the course had started. The conclusions that the investigator draws in this Case is that the subjects were chosen from their popularity as people in the institution, they had the task skills to cope with the challenge and to a lesser degree were socio-emotional in emphasis.

CASE D

I. PROGRAM AND TREATMENT EFFECT

Introduction

Case D was the second group of subjects to have a Spring treatment effect. Initially there was some question as to whether the course would be given due to the small enrolment. It was held to establish continuity of the course and because the students were people who would directly have an influence on Outdoor Education in Western Canada.

Subjects (N = 8)

The subjects in the study were students from a variety of backgrounds. Three men and the two women were professionals, from the professions of teaching, group work, nursing and youth camping. Of the three other male students, two were still in University but had a strong background in outdoor education, while the third was a graduate in Physical Education, having extensive background in functioning with people as student chairman of residences at the University of Alberta. The mean for the group age was 30.5 while in terms of maturity this Case was the most advanced of the investigation. Their outdoor experience was gained primarily from farming (31.3%) and from travel (25%). In camping experience they recorded a high of 37.5 percent in private camping, and 12.5 percent in each of Scouting, church camping and Youth Hostels. The purpose for becoming involved in the course was first to teach (25%) and second to "Know more about Outdoor Education" (18.8%). This Case (25%) was equal in its interest in teaching to Case A (26%) due to the professional direction of the participants.

Ascribed Leaders

The leadership team consisted of the investigator (1) and Leader (6) from the Biology Department, Camrose Lutheran College. Information on their background and person can be found on page 108 for Leader (1) and page 135 for Leader (6).

Ascribed Leaders Orientation

Leaders (1) and (6) met for two days to plan all aspects of the course indicating what in their opinion was not relevant to the overall objectives. They took steps to improve the quality of the equipment by purchasing tents for the river trip to emphasize this aspect of using the outdoors and also to eradicate the mosquito attacks of the previous Spring trip. Since they were to be involved with experienced persons in the leadership field it was decided to spend some time explaining the planning and logistics process to the subjects.

Group Organization and Function

The general principles of P-groups formation found in Case A (p. 111) were followed but had to be modified due to the fact that the N was so small and that we had two pairs that had worked together before as professionals and students. The two people from InterVarsity Christian

Fellowship Organization, the two students from Camrose Lutheran College, and the two women were placed in separate groups. Each P-group it was assumed would have strong leadership potential with the accumulated life experience of the group members. The P-groups functioned as separate entities on the backpacking trip but suffered a fragmentation on the river when the groups had to use tents for accommodation. When that occurred the three men from each group used a tent and the two women used one tent, that was usually placed midway between the two camps. This strategy did not vary completely from other Cases due to the fact that on the river groups usually must camp fairly close together because of the terrain and setting.

Curriculum Elements

In this Case since all the subjects were of a leader level and interested in the leadership process more time was spent during the preliminary sessions on how to achieve course objectives through the application of the four factors: leaders, group, curriculum elements, and environment. In addition, more time was used on the development and use of communication skills.

Orientation, Camrose Lutheran College - May 24-27. The four days spent on the college campus involved all aspects of trip preparation:

1. Lectures on the maintenance of body homostasis were given in terms of how the subject related to clothing, shelter, warmth and food.
2. A review of backup procedures, injury prevention and first aid application was conducted.
3. Sessions on basic communication skills were held such as paraphrasing, descriptive behavior, and active listening.
4. Three sessions were given over to the course process: Outdoor

Education via objectives, and how this process could be instituted in their own programs.

5. Group identification was enhanced by having each group help with the cooking duties in the campus cafeteria.

6. Conditioning: Since all students had been warned ahead of time regarding the importance of coming into the course with a good level of condition, one activity involving strenuous exercise was held each day

   (i) Combined backpacking and nature interpretation walk in the local wilderness area. Students took packs and cleaned up cans and bottles on the way.

   (ii) A timed 1½ mile run was conducted to re-enforce the importance that one should come to the course in condition.

   (iii) On the third day a survival swim was programmed in the local pool not only to continue the conditioning process but to give feedback on how the subjects reacted to water.

   (iv) Acclimatization exercise of the Van Matre type were initiated by Leader (6) to accustom the subjects to this way of learning.

Mountain Expedition Big Horn Mountains - May 29-June 3. This section of the field trip was planned to follow a route through the mountains close to timber line. It was to be a circular route enabling the subjects to experience a variety of mountain terrain and return within a reasonable distance of the transportation vehicles. Advantage was taken of every situation in the teaching of the following:

1. A full description of a backup plan and procedures used to solve emergency situations with the help of the local residents of the area was studied. On the trip this plan outlining the

expedition time line, description of area, and map, was given to the Chief Forest Warden at Nordegg, personnelat Pioneer Ranch Camp and the people at the College.

2. Travel techniques were taught in terms of hill walking, scree scrambling, the following of game trails and the use of landmarks, map and compass to find one's way in the wilderness.
3. The group practiced crossing wild mountain rivers with the aid of staff or climbing rope.
4. On a stay over day on the trail a group of select students took a short mountain climbing expedition while others studied nature and attempted fishing in Tershishner Creek.
5. Leader (6) used environmental games and exercises involving all the senses to teach ecological principles and focus on the process of wholistic learning in nature.
6. Group debriefing sessions were held every three days to facilitate the resolution of problems that emerged in the groups and to help open channels of communication.
7. Basic wilderness living skills were reviewed such as sharpening a knife, lighting a fire, setting snares and the construction and use of a sauna.
8. To test the response and reaction to an emergency situation a simulated accident was sprung on the group. After the rescue and proper application of first aid, the nature of the situation was revealed to the subjects and their response and feelings shared in a debriefing session.
9. Each morning throughout the trip a thought for the day was given relating to group life, nature or spiritual values.

Pioneer Ranch Camp - June 3-5. The purpose of this type of experience was to acquaint the subjects with a well run private camp and to facilitate the changeover from mountain tripping to canoe travel. In addition the setting provides excellent orienteering terrain. The curriculum elements included in this section were:

1. A review of map and compass climaxed by the running of two orienteering courses.
2. Instruction was given in both lake and river canoeing. All the subjects were involved in rescue procedures in the river where individuals dumped their canoes and were rescued.
3. Individuals had an opportunity to spend some time, riding horses, practising archery, or riflery.
4. A special evening program was prepared by the Ss and Leaders and presented to a grade six school group that was also at the camp during this time.
5. Evenings were spent singing a wide variety of camp songs and socializing with the camp staff.
6. All members of the group helped in the camp dining room, setting tables, washing dishes and cleaning up.

North Saskatchewan River - October 9-14. The river expedition was planned to include a day of rapids above Rocky Mountain House to increase the challenge and variety of the river experience. The curriculum elements included the following areas:

1. The subjects were carefully instructed how to pack equipment to keep it safe from getting wet. Pursuant to launching on the river a demonstration of how to tie equipment in the canoe was given, followed by supervision of the process.

2. Due to the intensity of the rapids a number of canoes tipped requiring rescue operations to be carried out. When camp was made special procedures for drying clothes were initiated and the problem of hypothermia discussed.
3. As the group proceeded down river all aspects of river tripping were taught, from negotiating narrow channels, to reading the current, finding campsites, water, shelter from the wind and how to take the rapids.
4. A visit was made to old Jake Doerksen, a gold miner on the river for many years. The subjects observed his new log cabin and his life style, almost completely dependent on the river. He told them of the early days of gold mining, logging and construction on his river.
5. Camping on the Brazeau river offered an opportunity to view this unique area with its meadow and cliffs. In addition the problem of coming down the river with its suddenly reduced water level was a challenge as well as an educational experience of how man manipulates the environment.
6. A skidoo was found abandoned on a sandbar in the middle of the river. Assessing that the machine had been stolen and run into the river the party loaded it on two canoes lashed side by side with cross poles and paddled it down to St. John's Boys School.
7. A visit was made to St. John's School where a discussion was held on the philosophy, goals and organization of the institution.
8. Group sessions were continued every two days to facilitate indepth training in this area.

Camrose Lutheran College - June 12-13. In order to reduce the time students had to stay after the trip this aspect was kept to 1½ days. The events of these two days were:

1. The pick up at Devon Bridge where canoes were cleaned and the return to Camrose via the vans.
2. A social evening was held that night at the home of Leader (6) as the first step in terminating the course.
3. The final examination and post test inventory were administered Saturday morning.
4. The equipment was cleaned and put away.
5. The subjects left in the late afternoon on Saturday after being interviewed by the investigator.

Environment

Terrain. The terrain used for the mountain trip was west of the town of Nordegg in mountains rising to the 8,000 foot level. The route was through a variety of land forms including swamps, mountain meadows, over bare ridges, and along forested valleys. The river section of the trip was on the multi-changing land forms of the North Saskatchewan as it winds its way north and east toward the prairies. This offers a great opportunity to experience man's impact on a great river that provides water and moisture for thousands of life forms.

Weather. The weather was constant throughout the experience. There were a majority of warm days and cool nights. During the entire period we only had two nights of rain and cold winds.

Program and Treatment Effects Unique to Case D

The treatment of this Case differed from all the previous Cases due to the fact that we were involving the members in the process of the treatment procedures. The facets that made the treatment unique were:

1. The emphasis on the involvement by the subjects in how we teach a course through objectives.

2. A continued consistent emphasis on using group techniques in communication and debriefing sessions.

3. The initiation of an emergency first aid exercise to test the subjects' reactions.

4. The increased emphasis used with the Van Matre technique to teach ecological relationships and environmental awareness.

5. The preparation of a campfire evening for the school children at Pioneer Camp.

6. The increased stress on having the students learn map and compass on the mountain journey increasing the success factor in the orienteering courses at Pioneer.

II. SUMMATION OF QUANTITATIVE AND QUALITATIVE DATA FOR CASE D

A. Results of Inventory

The inventory provides the quantitative data that has been reduced to the material that is pertinent to the Case. The material has been organized around seven areas:

1. Composite Outdoor Self. In Case D (Table 11, p. 90) the outdoor self changed no differently than all other Cases maintaining a midpoint position on the Scheffe multiple range test. The reason for this phenomenon can be found in the pre and post means for the inventory (Table 12, p. 91; Table 14, p. 94), where it is found that the pre scores were higher for Case D than all other Cases and in the post scores the response was higher than all other Cases. This comparison is displayed in Table 28 (p. 191). We can conclude from this evidence that Case D

Table 28

COMPARISON OF PRE AND POST SCALE SELF IDENTITY MEANS TO ASCERTAIN THE NON SIGNIFICANT TRENDS OF CASE D

Scale	Pre	Post		Diff.
1 Sensory Awareness Outdoorsman	7.143	8.161	=	1.018
2 Skilled Outdoorsman	6.075	7.300	=	1.225
3 Outdoor Group Leader	7.125	8.025	=	.900
4 Outdoor Sportsman	4.958	7.292	=	2.333

changed as much as was deemed possible within the confines of the inventory limitations. That is if one refers back to the scale model the Aspired-Ideal-Real discrepancy limits one from scoring much closer than an 8 or one has reached his ideal. Worchell and McCormick (1963) point out that only individuals who are maintaining a facade of adjustment and are basically maladjusted will score their real equal to the ideal. The association of the investigator with the Ss indicated that this was in effect a relatively healthy population who would maintain some distance between their real and aspired ideal. This being the case it can be predicted that they scored as high as was possible on the SI inventory.

2. Scale Change. In comparing all 4 scales (Table 11, p. 90), one finds that the only significant change in the SI is registered in Scale 4 --Outdoor Sportsman. In this scale, Case D registers a change profile that is close to the top of the continuum. Case A 2.480, Case D 2.333, Case E 2.192, Case B 1.792, Case C .574 ≥ Control. In order to ascertain the trend that occurred on the four scales the pre and post test means of the Case are presented in Table 28. In analysis of the comparisons we find that in order of importance on the post scales we have Scale 3 >

Scale 1 > Scale 2 > Scale 4. However when one considers a trend in terms of SI change the sequence is Scale 4, Scale 2, Scale 3, Scale 1.

3. Outdoor Self Evaluation as it Effects Total Self Evaluation. Data on Table 13 (p. 92) shows that the OSE improved but the TSE did not change from the pre test. This suggests a strong stable TSE on the part of the subjects in that the subself outdoorsman has already been fairly well established in the total self structure. The OSE did change significantly in comparison to the TSE maintaining a low correlation level.

4. Objective Public Evaluation and Self Evaluation on the Post Test. Table 14 (p. 94) indicates there is no significant difference between OPE and OSE on the post test scores. Individual scale analysis shows a significant difference in OPE and OSE on Scale 2--Skilled Outdoorsman. It is important to note that in this Case the OSE and OPE register the highest post test scores. This difference is significant yet to what degree can only be taken as a trend.

5. Relationship between Change in Objective Public Evaluation and Self Evaluation. The subjects in Case D (Table 15, p. 95) changed more significantly in their SE than they were evaluated as changing by the OP. This was characteristic on all scales with the exception of Scale 4--Outdoor Sportsman where they had a Ps = .5134 indicating a .097 probability although this did not reach the stipulated .05 level of significance it can be taken as a slight indication that the evaluation was reversed OSE < OPE in this Case.

6. Leaders. The leaders in this Case were no different from the leaders of other Cases in placing a particular emphasis on any facet of the scales (Table 16, p. 98).

7. Leaders, Referent Others and Subjects. In Table 29 one finds that the RO on Scales 1, 2 and 4 stay closer to the leaders' evaluation of the factors. However, in terms of importance ratings change the move toward the leaders' values and beyond is much greater for the Ss. (Ss +2.780 RO +0.029) This phenomenon establishes the stability of the RO values as being in near complete agreement with the leaders except for the Scale 3--Outdoor Group Leader where there is a movement away by the subjects.

Table 29

SUMMATION OF RELATIONSHIPS BETWEEN LEADERS, REFERENT OTHERS AND SUBJECTS - CASE D

Scales		Pre	Post		Total Change	Prob.
1 Sensory Awareness Outdoorsman	1 Subject	-0.119	+0.095	+0.214		NS
	2 Referent	-0.000	-0.071	-0.071		
2 Skilled Outdoorsman	1 Subject	-1.525	-1.025	+0.500	Subject +2.780	NS
	2 Referent	-0.125	+0.275	+0.400		
3 Outdoor Group Leaders	1 Subject	-0.958	-0.392	+0.566	Referent Other +0.029	NS
	2 Referent	-0.275	-0.575	-0.300		
4 Outdoor Sportsman	1 Subject	-1.056	+0.444	+1.500		
	2 Referent	+0.167	+0.167	+0.000		

B. Results of Interviews and Diaries

The subjects were all interviewed the day following arrival back at the College. This material, the material from the diaries and the observations of the investigator are all used in various ways to arrive at an assessment of the experience.

1. What was your overall impression of the experience? The general consensus was that the total experience was worthwhile in terms of their objectives, to gain a greater awareness of the interrelationships in nature, to learn how to function together as people, how to organize and run an outtrip, direction in finding one's way in the wilderness, and how to canoe. It was suggested that the biology aspect of the course could have been strengthened by including some lectures or more formal explanation of concepts at the beginning of the course while in Camrose.

> It's been a great three weeks, I have learned so much about the wilderness and its ecological principles. I hope to pass all this on some day.
>
> As I look back at the experiences I have just gone through as a "voyageur" I have gained an insight nothing I have previously encountered has ever done so effectively, it's been such an impact or "reality shock", as going from the crystal clear water of the mountain to a muddy, polluted body of water full of wastes of human activity--and I am part of the problem.
>
> It was a great experience, I learned many things, both relating to skill, knowledge and people. That makes it all more than worth it.
>
> By going to the mountain peaks, and climbing them, by going through the rapids of a turbulent river, man can be made to feel not as a controlling predator but humble and in appreciation of forces that are stronger than man.
>
> The mountain climb was the highlight for me. People were being honest and frank about fear--then willing to fight it off to accomplish the goal. When we got down and saw where we had been, it was a fantastically exciting feeling. This will always be a day to remember--some day I will return and make the top.

2. What did you learn from living in a group for such a period of time, in the outdoor setting? The consensus was that it was difficult living with persons you cannot initially choose yourself. Differences particularly with regard to age, sex, status and life structure, are hard to work through and overcome. Since there were only two women this meant an imbalance in the sex ratio in each P-group. They appeared to cope

with this problem very well, yet would have enjoyed the support of a second female in each P-group.

One group had difficulty in that both of the strong ROs were in the other group. In the group without the strong RO no one was willing or capable of taking over as a strong socio-emotional leader.

> We are still having problems learning to arrive at a consensus for action. Everyone thinks theirs is the only way to do things.
>
> We have really enjoyed the trip, it has brought out personalities and traits that some of us never really knew existed.
>
> It appears that I am not going to be able to stay on vacation much longer, while walking, I can divert my head and draw into myself which is pleasant, but remaining on the periphery of a group is hard oneveryone. I know giving my time is going to have its influence---damn it though, I'm tired of helping people all the time. I get really sick of the way people mess up their lives and drag others down with them by their neurotic superstitious behavior.

The experiences of hardship brought some members closer together as the trip progressed. In addition the debriefing and group sessions helped somewhat to clear the air for improved communication.

> The group seems to be perked up for a bit, even with the dunking in the river. Everyone is exhibiting a feeling of togetherness this evening--beautiful.
>
> Learned a lot about different types of people and the adjustments I'm going to have to make if I'm going to succeed . . . but time's on my side.
>
> I am making new friends and am learning to enjoy them as individuals. They are all so different and yet I find each one becoming important.
>
> Everyone is happy the trip is coming to an end and sad that we will depart soon. We are entering final stage of group termination. At supper tonight the air is filled with regrets of departing our own ways, but such is life. Everyone has grown from this experience and that was the idea.

3. What if any effect did living in the outdoor environment have on you as a person? This group in particular were affected by the contrast between the purity of nature in the high country and the pollution of the

North Saskatchewan as one proceeded down its length into the areas dominated by man. The sewage, effluent from oil pumping stations, and the garbage really created an impression.

> Just to walk through the mountains and see them in their beauty somehow is mystical and unexplained.
>
> You could notice the change in environments, it became more sparsely populated till all there was was lichens and other immature plant life.
>
> Rocky Mountain House and Drayton Valley pour their sewage into the North Saskatchewan river. This river doesn't mix it for miles. God, this pollution is sickening after being up in the mountains for weeks.

The group appeared to learn and became more sensitive to the sights, the use of all their senses through the environmental games and exercises in the whole milieu.

> The environmental game was bringing home ideas regarding how food chains work and how various factors can alter that food chain.
>
> Saw hundreds of swallows on a series of cliffs. Paddled slowly to look at the nests--they had high-rises before we even thought of them.
>
> Unable to sleep, crept out and had a peek at the night view, beautiful, peaceful and lonesome.
>
> It's beautiful here in this spot along the Saskatchewan, rose bushes, spruce, black poplar trees, birds singing, sun filtering in--the gentle breeze. Feels like another Saturday morning when I was a kid.
>
> Terrified of the situation. It is the "Risk Factor" and no rifle! Acceptance of these high risks has almost completely "unhinged" me! I don't know--that much about the bush, even though I have been around it for many years.
>
> Well, this has been a fairly lousy day, it wasn't sparked by anything in particular except a lousy night's sleep.

4. Do you think you have gained the skill training you need to be a competent outdoorsman? It was the investigator's observation that in the area of skill acquisition the highly skilled trained those with few

skills. The greatest number of comments came from those who were learning the skills while the outdoorsmen really felt they did not learn that much in this area.

> X went to work on supper and came up with the best meal possible, my hat is off to him--he really got creative.

> Had a great feeling of accomplishment at building the fire ---my group felt good I could do it.

> Learned how to make a figure 4 and piute dead fall. It looks very intriguing and fragile but would do the job on a rabbit --made a squirrel snare on a tree stump--all in all it was an educational day.

5. What have you learned about outdoor group leadership from your experience? The process of leadership was different for the two groups in that one group had the ROs for the case. In that group all members had leadership training, however the oldest RO was far more advanced in the camping process, and had worked with people in this environment for many years. As a result of this background and his personality and age, he automatically became the P-group leader, although he tried to set a low profile. He set the structure and everyone accepted. The younger RO leader in the group open to learn new techniques worked as a resource person in the situation. Since both other persons in the group were leaders in their own right they were able to function well within this framework. In contrast the other group, due to its lack of one extra strong RO, was constantly in a state of power struggle. As individuals they were all highly skilled in one area or another, however since they were lacking in wholeness as leaders in this situation no one was able to move into the role of true group leader.

> X had the skills but he tried to get power by manipulating people--the group resented this.

> We are still having problems learning to arrive at a consensus for action. Everyone thinks theirs is the only way to do things.

> X was the socio-emotional leader because he always would tell a joke or listen to what you had to say.
>
> X and Z took over the emergency situation and did the right thing to save the situation.
>
> I enjoyed teaching some camp craft and skills to others in my group and learning from them also.
>
> I am surprised to feel as good as I do about the whole thing ---I think I am learning something about caring for people with different problems and ways of doing things.
>
> When X arrived we were well into assessing the first aid emergency situation and everyone acted pretty good.
>
> Our group really gets along great, we can really get organized and camp well.

6. What was your response to the outdoor sportsman experience of physical endurance, canoeing and orienteering? The general opinion was that the canoeing was an exciting and challenging activity. In addition many liked the orienteering though they were not as completely immersed in it as the former. There was a certain understanding that to do these activities as well as walking in the mountains one needed a good level of condition. The work involved to get in condition was not always appreciated, yet there was an acceptance that it had to be done to reap the rewards of the experience.

> Everybody's body is toughening up. We canoed about 10 hours today and made good time.
>
> Really did well today in the orienteering course, it was a challenge, but should have come in first.
>
> After orienteering I was totally exhausted. But feeling really good to be able to complete it.
>
> X and I took the rapids real well--just one mistake and over we went--talk about cold water! Today went great! By great I mean we didn't get wet. I learned new strokes and relearned old ones.
>
> In the afternoon we ran an orienteering course . . . I was tearing up the muskeg like a moose in rut looking for those controls . . . came first.

> Had a good day, worked hard and enjoyed it. I was feeling much more secure setting my angles and generally more sure of myself in the stern.
>
> Then we ran a #12 station orienteering course, I only made #3 then I gave up. I couldn't find #4. Spent 1½ hours trying to find it. I gave up. I guess I need more practice, especially when a greater distance between controls is involved. I was so mad if I had seen someone carrying that control jug I would have killed him. I was sure someone had stolen it.

III. SYNTHESIS OF DATA AND CONCLUSIONS FOR CASE D

In this section the purpose is to use the quantitative and qualitative data to synthesize and discuss the results.

A. OUTCOMES OF OUTDOOR GROUP EXPERIENCES RE SPECIFIC OBJECTIVES AND CORRESPONDING SELF EVALUATION ON SELF ACTUALIZATION

Question AI: What is the Effect of the General Outdoor Education Group Experience on the Self Actualization of Composite Outdoor Self, Self Attribute Factors, and Total Self Evaluation?

A. Composite Outdoor Self (SI)

The conclusion arrived at for this case (A. 1, p. 190) is that the quantitative data purports that there was no change on the overall SI for the subjects in this Case except for Scale 4--Outdoor Sportsman. This conclusion could be accepted categorically if one did not consider the pre test means of the Case Scale 1 = 7.14, Scale 2 = 6.075, Scale 3 = 7.125 are high enough to approach the post test means. Further evidence that the subjects stayed high in the experience is found in Table 14 (p. 94) where we have an opportunity to compare the post test means of Case D as opposed to all other cases scores the highest in every scale. The interesting fact is that the post test scores reveal the order of change in the other data excluding D. The order reads for example:

Scale 1 - D > A > E > B > C

Scale 2 - D > A > E > B > C The average mean for D = 7.781 higher than all the other total means

Scale 3 - D > A > E > B > C

Scale 4 - D > A > E > B > C

which clarify the point that Case D scored higher than anyone else on the post test even if the change was not registered as significant. This demonstrates the level of the outdoor self in the subjects coming into the course and the positive increase that occurred even though the change was not significant.

> It was a great experience. I learned many things, both relating to skill, knowledge and people. That makes it all more than worthwhile. (B. 1, p. 194)
>
> By going to the mountain peaks, and climbing them by going through the rapids of a turbulent river, man can be made to feel not as a controlling predator, but humble and in appreciation of forces that are stronger than man. (B. 1, p. 194)

These two statements encapsulate the general feedback from the Ss who felt they had not only learned a great deal about an approach to leadership training, but had fitted in many gaps in their OSI.

B. Outdoor Self-Attribute Factors

The evidence Table 11 (p. 90) confirms that Case D did not change significantly on any of the scales but Scale 4-Outdoor Sportsman. However since the evidence strongly suggests that agreement with experience and all four factors from the results of the post test means each factor will be discussed in this light (Table 28 p. 191).

B^1 Sensory Awareness Outdoorsman. In the comparison table of post test means the Ss rate this Factor as the most crucial in the pre-test and second in the post-test.

1. Group Interaction. The resolution of differences and conflicts

between persons of such varied backgrounds, age, status and life experience resulted in a subsequent opening up of the subjects enough to start being honest with each other.

> Learned a lot about different types of people and the adjustments I am going to have to make if I am going to be a leader. (B. 2, p. 195)

> I am not going to be able to stay on vacation much longer, while walking I can divert my head and draw into myself which is pleasant, but remaining on the periphery of a group is hard on everyone. (B. 2, p. 195)

> Really enjoyed the trip, it brought out personalities and traits that some of us never really knew existed. (B. 2, p. 195)

2. Environment. This Case really became immersed in the beauty of nature as well as being very aware of the ecological interconnection between resources, technology, pollution and war.

> Is beautiful here in this spot along the Saskatchewan, rose bushes, spruce, black poplar trees, birds singing, sun filtering in--the gentle breeze. Feels like another Saturday morning when I was a kid. (B. 3, p. 196)

> Rocky Mountain House and Drayton Valley pour their sewage into the North Saskatchewan river. This river doesn't mix for miles; God, this pollution is sickening after being in the mountains for weeks. (B. 3, p. 196)

> Just to walk through the mountains and see them in their beauty is somehow mystical and unexplained. (B. 3, p. 196)

B^2 Skilled Outdoorsman. Using the same significant mean comparisons one finds (Table 28, p. 191) that the third strongest SI trend is found in Scale 2. In change since the pre test is the lowest, we find that this area is second in importance. From this we can conclude that the learning of skills showed considerable improvement in the course, almost reaching the significance level (Table 11, p. 90). The qualitative data supports this learning effect in that it enabled the Ss to fill in holes in their training and experience.

> Had a great feeling of accomplishment at building the fire --my group felt good I could do it. (B. 4, p. 197)

> When X arrived we were well into assessing the first aid emergency situation and everyone acted pretty good. (B. 5, p. 198)

Where the Ss rated the skills in terms of their SI it was basically below that of other qualities such as the Outdoor Group Leader indicating that their maturity enabled them to internalize Scale 3 as a strong aspect of their subself.

B^3 Outdoor Group Leader. This factor is scored the highest on the post test (Table 28, p. 191) in accordance with the interest of these Ss in the area of leadership. The comparison between it and Sensory Awareness Outdoorsman are almost of equal strength in that both Scales have high post test means and higher pre test means. Therefore the change index in both is relatively small. The qualitative data confirms the high interest and ascription to the leadership factors. All were leaders at different stages of development from the highly experienced in both task and socio-emotional skills to the rank beginner with skills but little experience in the socio-emotional section. The analysis of how the leadership development was progressing can be inferred from these statements.

> Learned a lot about different types of people and the adjustments I'm going to have to make to succeed . . . but time's on my side. (B. 2, p. 195)
>
> I enjoyed teaching some camp craft and skills to others in my group and learning from them also. (B. 5, p. 198)

B^4 Outdoor Sportsman. Two sources of quantitative data are interesting to assess. The first, Table 28 (p. 191) clarifies that in the level that the Ss perceived themselves at (SE) was below that of the three other Scales indicating the relative level of their SI is farther away from this ideal than in the other areas where they have more training and experience. On the other hand, the level of change (Table 11, p. 90) is significant with an equally high score on the continuuum of Case D at

2.333 with Case A at 2.480.

It is obvious that this change occurred due to the fact that the Ss were in the most part lacking in this domain. Most had never canoed in fast water before and the same proportion had never really used a map and compass effectively to find one's way through the wilderness, they achieved success in the orienteering which made a strong impression on their feeling of confidence even if they were only able to finish the course.

> After orienteering I was totally exhausted. But feeling really good to be able to complete it. (B. 6, p. 198)

C. Total Self Evaluation and Outdoor Self Evaluation.

The conclusion arrived at is that for most of the Case there already was a strong integration of the subself Outdoorsman with the Total Self Image. The change that occurred on the part of the OSE was significant but had little effect on the TSE (A. 3, p. 192)

Question AII: What is the Effect of Unique Case Modification of Leadership, Group, Environmental or Curricular Processes on Self Actualization of Composite Outdoor Self, Self Attribute Factors, and Total Self Evaluation?

The unique program and treatment effect for Case D is found on page 189.

A. Leadership Modification

In this Case the focus on the Leaders was limited to the investigator and his partner, Leader (8). Since the group was small this led to a more intimate contact with all members of the expedition. In addition the Leaders spent much more time discussing the process through which the Ss were going, relating it to the objectives that had been outlined for the course.

One major factor that the investigator noticed was that even though it was a smaller group, the same work load was evident. In the other Cases there had been assistant leaders to help in organization of equipment, camp maintenance and instruction. This might have been alleviated somewhat if the Ss had been used more to share their knowledge.

B. Group Modification

There has been a great deal of speculation and research on what is the optimum size and structure of P-groups. As has been outlined the investigator attempted to apply certain agreed upon psychological principles to the P-groups, while at the same time drawing on the experience of organizations such as Outward Bound, and others directly involved with wilderness group experiences. In Case D due to the small enrollment the P-group size and composition was controlled by this limitation. As a result this structure became a key program treatment effect that had its own rather peculiar impact on the study.

1. Sex Ratio. To attempt to maintain some continuity of group organization the two females were placed in separate groups. This created an imbalance of power in that they were alone with three men without moral support; on the other hand, as well as reducing their power in the group at times it gave them too much power.

2. Age. It was found that the discrepancy in age was a factor that separated people due to such things as: a lack of common interests about which to talk, a difference in life style, a difference in energy level, permissiveness vs. rigidity, and confidence vs. lack of confidence. This set the stage for conflict since the mutual sharing was in the most part one-sided creating an imbalance.

3. Leadership Concentration. All the participants were interested in leadership techniques and strategies, however under the situation only two had the level necessary to be leaders of leaders in a group situation and both were in one group. Each S in the appropriate setting could have led others who were less talented than they but in this situation one group accepted the leadership of its older RO while the other group continued in a leadership conflict over power during the whole expedition.

> We are still having problems learning to arrive at a consensus for action. Everyone thinks theirs is the only way to do things. (B. 2, p. 195)

4. Consistent P-group debriefing sessions helped to analyze what was occurring to their function. This helped within limits to resolve and clear the temporary conflicts.

5. Size of Community. In comparing this Case with the others it is concluded for this type of experience a group twice the size has more excitement and colour due to the skills and talents the Ss bring to the community experience. True, in a small group there is the opportunity for leaders and students to become more intimate, yet this occurs only to the degree that Ss are willing to commit themselves to others. A larger group usually provides people in it with similar interests where they are able to focus some of their time as a respite to the level of commitment in the group to each other. All these various aspects that occurred more through circumstance than actual group modification produced two different types of P-groups and a good laboratory for personal interaction and growth. A larger community group would have added enrichment to the experience.

C. Environment

This Case was used to explore new territory along the fringe of the alpine ridges in the Rockies. The terrain was a challenge for all, both males and females and elicited feelings of fear, awe, joy and wonder:

> By going to the mountain peaks, and climbing them, by going through the rapids of a turbulent river, man can be made to feel not as a controlling predator but humble and in appreciation of forces that are stronger than man. (B. 1, p. 194)

The journey through the mountains and subsequent trip down the river from Rocky impressed the Ss with how man modifies and changes the environment.

> . . . it's been such an impact or reality shock as going from the crystal clear water of the mountains to a muddy, polluted body of water full of wastes of human activity--and I am part of the problem. (B. 1, p. 194)

D. Curriculum Elements

1. Canoeing. The emphasis on fitness from day one on was the same as in all the five cases. However, the structuring of the canoe trip to put in one day above Rocky Mountain House thus taking in a full day of wild rapids had marked effect on the importance of this activity. This made the experience similar to Case A, since the water was high in the Spring of 1973 causing rapids of some magnitude below Rocky Mountain House. Cases B, C and E did not have the same rapids due to lowering the river at the Big Horn Dam.

2. Orienteering. A greater emphasis was given to map and compass early in the course as the groups travelled through the country. The two courses were constructed in a different manner creating a greater possibility for success.

Changes in both attributes had an effect on the SI change in the Scale 4--Outdoor Sportsman.

3. Mountain Climb. The response of the climbers indicated that this was a profound experience that affected the worth of the whole trip

in their eyes. The only other group that had this type of highlight experience was Case A.

> The mountain climb was the highlight for me, people were being honest and frank about fear--then willing to fight it off to accomplish the goal. When we sat down and saw where we had been it was a fantastic exciting feeling. This will always be a day to remember. (B. 1, p. 194)

4. Sensory Awareness. The use of the Van Matre (1972) approach to learning about the environment and the ecological principles helped the Ss to maintain a high level of SI in this dimension. Much interest was shown in this learning approach as referred to in the subjective data as a means of making people more aware and sensitive to not only the laws of nature but all of life.

> It's been a great three weeks, I have learned so much about the wilderness and its ecological principles. I hope to pass all this on some day. (B. 1, p. 194)

> The environmental game was bringing home ideas regarding how food chains work and how various factors can alter that food chain. (B. 3, p. 196)

The curricular changes that included more spectacular mountain terrain, increased preparation to cope with the challenges of environment and personal interaction, and the emphasis on the environmental sensory awareness section were all positive factors in maintaining the high post scores of this Case study.

Question AIII: What is the Effect of Subjective and Objective Public Evaluation on the Self Actualization of Composite Outdoor Self and Specific Self Attribute Factors?

It is important to note that there is no significant difference (A. 4, p. 192) between the OPE and the SE in the total assessment. However when this is broken down into scales we find the OPE and OSE are significantly different at the .05 level for Scale 2--Skilled Outdoorsman

Scale 1-Sensory Awareness Outdoorsman and OPE > SE in Scale 2--Skilled Outdoorsman. These results are not significant or unique to this case but is the same for all cases. The interesting facts related to this Case is that on Table 14 (p. 94) one finds that in terms of post scores the SE and the OPE evaluation on every scale are higher than every other case. This gives an indication that experienced outdoorsmen give a high value rating not only to themselves but to those in their p-groups.

B. OUTCOMES OF OUTDOOR GROUP EXPERIENCES AS THEY RELATE TO LEADERS, REFERENT OTHERS AND SUBJECTS 'IMPORTANCE' RATINGS OF SPECIFIC OUTDOOR SELF-FACTORS

In this section the quantitative data will be discussed with that of the qualitative data in clarify the subsequent questions.

Question BI: What if Any is the Unique Effect of the Value Leaders Place on the Importance of Specific Factors in the Outdoor Experience?

Leaders in all cases in responding to the 'importance' aspect of the inventory had a high overall mean of 8.387 (Table 16, p.98). The differences between the scale means in each case was not significant, indicating that the leaders did not differ in their emphasis. Further discussion can be found on p. 99.

Question BII: What is the Relationship Between the Value Leaders Place on the 'Importance' Ratings of Self Attitude Factors and the Response of Those Factors by Referent Others and Subjects?

In this case (Table 17, p. 100) the RO identify more precisely with the leaders scores than in other cases. It can be seen that in the post test scores the value of Case D -0.116 is closer to the leaders value of 0.000 than all cases except Case A +0.055. In change pattern as a case the pre and post tests maintain a position close to the leaders and do not change. In the individual Scales (Table 29, p. 193) this also occurs in that the RO have established a frame of reference close to the leaders in all Scales but Scale 3 where there is a regression (-0.300). The same phenomenon exists for the Ss in this Case, that they establish a post test position closer to the leaders than the Ss in any other Case and their change from pre to post test is more radical than any other Case. On the whole the subjects changed by +2.590 points compared to +0.090 points for the RO.

The conclusion is that the small groups with the strong RO helped the subjects come into a much closer alignment with the Leaders' values. In all cases except Case A (Table 17, p. 100) there is a closer alignment with the Leaders' values, neither too many points below or too many above the value of 0.000. The interest in this area created a response more precise than with other Cases.

Question BIII: What Characteristics were Evident that Caused the Subjects to Choose their Peers as Referent Others in each Case?

The two RO's in this Case were highly skilled as task leaders. One was twice the age of the other and had a background of experience with people and communication skills. Having been a leader for many years he was capable of listening as well as directing. The younger RO needed much more experience in communication and the development that would enable him to become more involved with persons. Both were at the extremes in temperament, the older one overt, noisy and excitable, the younger quiet, almost tending on the introvert side at times. Both contained the qualities that others were keen to identify with to become leaders themselves in the outdoor situation. The younger presented a more flexible life and philosophical style while the older reflected the stability and excitement that many would like to see in themselves.

CASE E

I. PROGRAM AND TREATMENT EFFECTS

Introduction

Case E is the last group that was evaluated by the investigator. It can be assumed that this Case was similar to the two Fall Cases and that the accumulated material on structure and course content would be used in this particular investigation. One variable that disrupted the structure of this Case was the dropping of the course by two students and the inability of two to take the canoe trip due to sickness.

Subjects (N = 21)

The subjects of the study were first and second year students from Camrose Lutheran College. The Case consisted of 13 female students and 8 male students with an average age of 18.5 which is the same as for Cases B and C. Their outdoor experience was primarily through travel (35.7%), parks (19%) and farming (21.4%) which is very similar to that of Case C. As campers they spent the greatest time at church camps (23.8%), family camping (21.4%) and at private camps (19%). Of all the Cases this group had the highest percentage with church camp experience and Youth Hostel camping. The purpose for taking the course is very similar to Case B in that 26.2 percent wanted to "Know more about Outdoor Education", 23.8 percent "Thought it would be interesting", and 14.3 percent wanted to "Improve their camp skills".

Ascribed Leaders

The leadership team consisted of the investigator (1), Leader (6) and a student Leader (8). Information on their background can be found:

(1) - Refer to Case A, p. 108

(6) - Refer to Case B, p. 135

(8) - Male, (22), single, in second year Education, with a major in Outdoor Education, at Camrose Lutheran College. Extensive experience as an outdoorsman, church camp resource leader, canoe and cross country ski instructor. Had a good sense of humor and ability to control and communicate with people. Oriented toward the spiritual aspect of life but not organized Christianity.

Ascribed Leaders Orientation

1. The Leaders met for a few short sessions before the course in order to clarify values, objectives, and areas of responsibility.

2. Leader (8) was known by a number of students and stood out for his ability not only to perform the skills but to communicate with others in the outdoor situation. He was helped to establish himself as a leader through guidance from Leaders (1) and (6).

Group Organization and Function

The criteria used for the placement of people in groups was the same as that for all preceding Cases. The one unique change was that there were now more girls than boys taking the course. An effort was made to place highly skilled males in all the groups to provide resources in the outdoor scene and to reduce the "risk factor" on the dangerous parts of the course. The balance between males and females was further upset when one male left the course. This meant that in two groups there were three females and one male.

Curriculum Elements

As with Cases B and C the treatment effect would not be as concentrated due to having the course over a longer period of time during the fall semester. In summary form the phases of the course proceeded as follows:

Orientation, Camrose Lutheran College - September 10-18. Since all the planning for the trip had to take place in three lectures only the basics could be covered.

1. Information given on needed equipment, clothing, menu planning, group expectations, and safety.
2. Placed students into P-groups during the second lecture--immediately planned the menu, purchased and packed food for the trip.
3. The investigator administered the pre test inventory.

Backpack Trip, Donalda, Badlands - September 18-21. The key instructional sessions, group and environmental experiences are outlined in this section:

1. Travelled by van to Badlands where we discussed backup rescue strategies that would be used in case of an emergency. Spent time with local farmer checking time of return and emergency strategies.
2. Travelled to camping spot on Battle River. Set up leantos. Cleared signalling system; one whistle, I am here; two whistles, I am coming; three whistles, come to me.
3. The weather bright and clear, travelled over ridges and through canyons. Instructed students on how to walk, cross scree slopes, climb hills and how to cross the river using safety ropes.
4. As we travelled, observed much of the natural history of the area as it relates to mining plus much of the flora and fauna.
5. Camped on a long neck of land near the Battle River. Instruction was given on the types of leantos to be used, organization of

camping area and purification of water.

6. Awareness sessions were instituted. One from the top of a knoll as the sun set was based on everyone first climbing to the top of the knoll. There everyone pretended they were a rock not moving or even turning their heads. This was done to acquaint people with the evening sounds of nature. Other sessions were held involving environmental games and awareness sessions to initiate the subject into using all the senses to understand the laws of nature.
7. Instruction was given in the sharpening of knives and axes. This was followed by practice sessions in the use of axes and backpack saws.
8. A demonstration of fire building techniques, making of feather sticks, and the use of squaw wood was conducted.
9. In the morning a session on map and compass was given. This was followed by the subjects pacing out and following a compass bearing across country.
10. An informal campfire was held one evening while a wide game was played on the second evening.
11. Time was spent in star observation, finding the North star and various minor constellations.
12. Every morning was started with a thought for the day while a special setting was used for a short morning church service on Sunday.
13. On the last day each P-group was directed to choose an expedition leader, and then find their way back to the vans as a unit.

Camrose Lutheran College - September 24-October 7. This period of time was spent assessing the results of the first field trip and preparing for the canoe trip:

1. Short debriefing sessions were held with each P-group. These sessions had little pre-instruction in paraphrasing or communication skills.
2. First 3 lectures were used to adjust menu needs, clothing requirements, and the acquisition of food and extra equipment.
3. Three periods were spent with the students learning the basic strokes and all the routines considered essential for the trip. Fortunately two boats accidentally tipped in the lake and the occupants had to be rescued. The plan was to have all the students go through the experience, but the timing was inappropriate, as the weather became too cold to initiate simulated rescue procedures.

North Saskatchewan River Trip - October 8-13. On the river trip the students were exposed to the outlined learning experiences:

1. Travelled by van to Rocky Mountain House, crossed the river and chose campsites. They then paddled upriver where the canoeing techniques of back-ferrying, eddy turns, and reading current were practised.
2. Students were put under pressure to build their own leanto and set up camp by working till one half hour before dark.
3. Instruction was given in the morning on how to put out fires, leave campsite, store poles and wood for the next man coming by that way.
4. During the day various situations were used to enable people to read current and find the best way to negotiate the various obstacles on the river: sand bars, rocks, rapids and alternative river channels.

5. Special instruction on how to surf in rapids, use of eddies to help you turn, were given to aid the canoeists to take advantage of all the fast water.
6. Explored an old logging site to ascertain the impact of man on the environment. Students were taught how to make super tinder and start a fire.
7. The subjects visited the log cabin at the Brazeau where they conducted the annual cleanup of the area by picking up four sacks of crushed cans and bottles.
9. The party stopped to visit Jake Doerksen the old prospector, who lived on the island 10 miles from Devon. He showed them his new cabin and how he kept warm in the winter. (This was the last outdoor group to visit Jake, he drowned in the river that winter. Men like him pass on a living history that few young people ever hear.)
10. Each morning of the trip, just before we left the camp a thought for the day, of inspiration or faith, was shared with the group.

Camrose Lutheran College - October 14-November 29. This section was divided into the following activities:

1. P-group debriefing plus a debriefing of the whole group was held on the Monday following the trip.
2. Six sessions of map and compass were followed by the running of the orienteering course in Camrose.
3. Three sessions were held on camping programs of varying types and kinds in Western Canada that the students might get involved with during the summer.
4. The post test inventory was given close to the termination of the map and compass section (December 1, 1977).

Environment

Terrain. The terrain used for the back-packing trip was south-east of Camrose in an area that is covered with a variety of land forms, high hills, deep ravines, grassy cones, sagebrush, willow and trembling Aspen. It appears to be the center of a vast coal deposit that burnt out after the last glacial age leaving an area known for its lack of good water in its springs and water holes. In September the beauty of this particular section of country is next to spectacular with its variety of colours.

The North Saskatchewan river from Rocky Mountain House to Devon provides a wide variety of river terrain. The activity of man is practically nil on the upper section of the river with increasing impact occurring as one travels down river.

Weather. The weather was on the whole balmy and warm, with clear skies. Only one day on the river was wet and cold with a drizzle coming down.

Program and Treatment Effect Unique to Case E

The areas that one would term unique for this case were:

1. The same strategy was used with this group as with Case B. The only debriefing that was done was at the end of each trip. Little debriefing was done during the trip.
2. Everyone was taught to stern. Unfortunately the students as in Case C were allowed one day to canoe with whom they pleased. As a result some canoes were left with weak crews on the long haul of the trip. This created a difficult situation in terms of risk and safety, and a feeling of antagonism between those who had an easy day and those who had suffered.
3. The structure that created a unique effect was having groups

dominated by females rather than males. This unique structure had interesting ramifications for leadership.

4. Particular emphasis was given to identifying leaders by having students pick expedition leaders, by placing a strong person in each group with people who knew very little about the outdoors, and by giving the leaders added responsibility in the course.

II. SUMMATION OF QUANTITATIVE AND QUALITATIVE DATA FOR CASE E

A. Results of Inventory

The inventory provides quantitative data that has been reduced to that material which is pertinent to this Case. The material has been organized around seven areas:

1. Composite Outdoor Self. Case E (Table 11, p. 90) changed more significantly than the Control but no more than Cases B, D or A on the continuum. A 1.564 ≥ B 1.498 ≥ E 1.448 ≥ D 1.238. The numbers indicate a close relationship between B 1.498 -- E 1.448, D 1.238 -- Control 0.210.

2. Scale Change. In Table 11 (p. 90) one can see that Case E has changed on every Scale more than the Control. These changes are summarized in the following table. It is the only Case that changed significantly in the Scale 3--Outdoor Group Leader. Its next greatest change occurs in Outdoor Sportsman, and Sensory Awareness Factors, whereas its least significant change occurs in the skill area.

3. Outdoor Self Evaluation as it effects Total Self Evaluation. Data on Table 13 (p. 92) indicates that the OSE mean is twice that of the TSE with a radical difference in SD. We can conclude that the change in the OSE was not sufficient to create a change in the TSE.

Table 30

SUMMARY OF SCALE RESULTS FOR CASE E
SCHEFFE MULTIPLE RANGE TEST (TABLE 11, p. 90)

Scale	
1 Sensory Awareness	- CASE A, E, B ≥ Control
	- Case B 1.399
	- Case E 1.136 ≥ Control .068
2 Skilled Outdoorsman	- CASE E, CASE A, B ≥ Control, CASE C
	- Case A 2.216
	- Case B 2.033 ≥ Control .517, Case C .811
	- Case E 1.743 ≥ Control .517
	- Case D 1.225 -- Control, Case C .811
3 Outdoor Group Leader	- CASE E ≥ Control, CASE C, D, B, A
	- Case E 1.155 ≥ Control .081
	≥ Case A .962
4 Outdoor Sportsman	- CASE C, B, E, D, A ≥ Control
	- Case C 1.574
	- Case E 2.175 ≥ Control .265
	- Case A 2.480

4. Objective Public Evaluation and Self Evaluation on the Post Test. On Table 14 (p. 94) one finds there is no significant difference between the post test means in the OPE and OSE. If one breaks down the results in scale analysis, Scale 2--Skilled Outdoorsman shows a significant difference between OPE and OSE. The interesting finding is that on the post test Case E scores third on the continuum to all other Cases which is its position in total change of SI.

5. Relationship between Change in Objective Public Evaluation and Self Evaluation. On Table 15 (p. 95) one finds there is only a small correlation between change of the OPE and change for SE. The means in all

Table 31

SUMMATION OF RELATIONSHIPS BETWEEN LEADERS, REFERENT OTHERS AND SUBJECTS - CASE E (TABLES 18, 19, 20, 21)

Scales		Pre_1	$Post_2$	Direction	Total Change	Prob.
1 Sensory Awareness Outdoorsman	1 Subject	-0.222	-0.304	-0.082		NS
	2 Referent	-0.686	-0.457	+0.229		
2 Skilled Outdoorsman	1 Subject	-0.848	-1.379	-0.531	Subject -0.925	NS
	2 Referent	-0.457	-0.457	+0.000		
3 Outdoor Group Leader	1 Subject	-0.683	-0.954	-0.271	Referent Other +0.629	NS
	2 Referent	-0.797	-0.597	+0.200		
4 Outdoor Sportsman	1 Subject	+0.326	+0.285	-0.041		S
	2 Referent	+0.956	+1.156	+0.200		

Cases reveal that this change is much larger than for the OSE than the OPE. Scales 2 and 4 both indicate a modest significant trend of association.

6. Leaders. No significant differences registered between Leaders of any Case (Table 16, p. 98). Discussion is found on page 97.

7. Leaders, Referent Others and Subjects. The general tendency (Table 17, p. 100) in this Case is for the RO to be closer to the Leaders in the post but not the pre test. The raw 'importance' scores indicate that generally the RO are closer to the Leaders on Scales 2 and 3 but farther away in a negative direction for Scale 1 and a positive direction for Scale 4. The Ss have all moved in a negative direction on all Scales. This move for Scale 4--Outdoor Sportsman may bring them more in line with the Leaders' value but it may also mean a negative regression on the part of all the Ss for the importance of all areas.

B. Results of Interviews and Diaries

The subjects were interviewed after the orienteering was completed. The diaries were collected the week following the experience. The material obtained from both sources and the observations of the investigator are included in this section.

1. What was your overall impression of the experience? Unlike other Cases these subjects did not have an overall impression of the course. They appeared to have grown compartmentally rather than holistically. Some of the comments in this regard are included here.

> We were the last ones so Leader (1) said we had to canoe by moonlight. It was the neatest feeling. This trip was really an emotional high for me. One minute I could cry while the next I'm really super content.
>
> Was glad to get clean and use modern facilities--maybe because I am a product of my society. At the same time I became more aware of how artificial and removed from its roots our technological society has become. Maybe we think that while we have gained, we have lost much.
>
> This trip has given me a greater understanding of nature and God and a broader outlook on the future of life on earth.
>
> When we left on this trip I didn't feel really confident in any outdoor skills, now I can cook better than ever on an open fire, have some idea of what to look for in choosing a campsite, build a leanto, use a compass and sharpen an axe.

The words that were used the most were patience, tolerance, and cooperation. It becomes evident that for a great many they tried to cope with living in the group by subscribing to these qualities.

> I get impatient with the guys in my group sometimes--then I remember what Leader (1) said about not trying to change people to be what you are like.
>
> Then we went up on top of a big hill. It was really peaceful up there. He told us to be still and quiet for 5 minutes and pretend we were rocks that had been there from the beginning of time. The scene was beautiful with the last rays of the sun dying on the western rim and coyotes howling in a chain from south to north. It makes you feel good that you can be one of God's children in our wild and free universe.

2. What did you learn from living in a group for such a period of time, in the outdoor setting? The observation by the investigator in this Case was that since the leadership team did not work on the interpersonal aspect of group development, the subjects had to cope themselves. This appeared to result in little interpersonal group growth except on an individual basis. What occurred was that those people who desired to become more compatible with others tried to change themselves, while those who were rigid continued to operate in their old irritant ways.

In addition other factors that occurred partly by chance and partly through design resulted in a different program treatment summarized as follows:

a) On the major outtrip 3 of the 4 groups had only one male with 2 groups with 2 females, and 1 group with 3. The response on the girls' part was to automatically elect the male to the leadership role while at the same time confounding his efforts at leadership.

> The girls made me leader because of my skills or was it because I was the only male in the group.
>
> Y found it really hard to cope with the sex differential particularly when the one guy was already married.
>
> X felt he needed more male companionship, after all you need some common experiences and interests to make good conversation unless you are interested in a girl as a girl, what have you to talk about?

b) The males who were alone in certain groups would frequently leave their own cooking site and move to some other camp for a time of male fellowship. The comment by the girls in that situation was that they appreciated listening to the boys talk about hunting, fishing, and sports.

c) The canoe section of the course is of such an intense nature that in many instances camping spots for P-groups have to be chosen close together thus making it relatively easy for inter-group fraternization. This along with the fact that only 2 people paddle a canoe often creates a situation where P-groups only become a place to eat and sleep. You tolerate, have patience with, or try to get along as best you can without too much involvement.

Physically everyone is tired. I feel we have come to a point where we recognize and accept the other person for who they are. We are more willing to overlook shortcomings and have achieved, I feel, to some degree some aspects of genuine caring . . . we are more aware of how important patience, tolerance, organization and cooperation are for a group to live together and work efficiently.

When we were on the backpacking trip all of us were cooperative and amiable, but on the canoe trip personality clashes were strong. X would only put up the leanto. Y would only light fires and get wood. We really got rigid.

It was good to have only three of us in the group, because we were able to open up, and we had to all work to survive.

3. What if any effect did living in the outdoor environment have on you as a person?

I realize how true it is now, that you cannot experience joy without experiencing pain. I know there were times when I felt so frustrated or so physically drained that I wondered why I ever got into this situation in the first place. But I also knew that without these times I would not have fully realized and appreciated the joy and the beauty of this land.

Leader (8) let us sleep while he steered the canoes--boy, was it ever beautiful--just listening to all the sounds, feeling the wind blow across our faces and hearing and feeling the waves hit our canoes. It was one of the best times on the whole trip.

This was the end of our stay. I'm sad. It was so nice to get away from everything and to be close to nature.

The devotions we had were really neat, sitting on the hill, looking over the valley, the sun beaming and taking time to say thanks to God for everything that we have in abundance and to say "Please be with me today, God, and help me to realize the needs of others".

4. Do you think you have gained the skill training you need to be a competent outdoorsman? The case indicated that they really gained from the emphasis on basic skill instruction.

> This trip helped me in my outdoor skills again and I think I would like to repeat the course.
>
> Leader (1) talked about sanitation in the outdoors. I had never heard anything on that subject before and found it amazing. Most of the things such as boiling your utensils every three days, had never occurred to me before--yet it's just common sense.
>
> I am improving in outdoor skills and canoeing, my muscles are sore but I do feel good.
>
> I realize now I am not a great outdoorsman, but I can survive out there if I have a few necessities.
>
> My highlight today was chopping that log in half during our axemanship session. I enjoyed the compass work but it was sure hot.
>
> The cooking went smoothly, we had a big supper of minute steaks, boiled potatoes, and carrots. It sure tasted good.

5. What was your response to the outdoor sportsman experience of physical endurance, canoeing and orienteering?

> I had a hard time understanding why we didn't take our time and go less distance with more time to do it but now I think I understand. People don't react in the same way when everything is going right and nobody is on your tail with a paddle ...
>
> I had a fantastic day on the river. I really loved it. I really like paddling in the rain . . . when the going was monotonous we would sing to keep our spirits up.
>
> It was frustrating for both of us because X had hardly sterned before. By afternoon we were doing really well . . . when we got to the end X said to me "We did it. We did it all alone." It made me feel good. I felt closer to her.
>
> I feel good about all aspects of the trip especially orienteering.
>
> I would like to go in a big orienteering competition now.
>
> I think the day was the longest of my life. My arms felt like spaghetti. When I woke this morning it felt as though I hadn't even gone to bed. I was just as tired when I got up as when I went to bed.
>
> Really felt good after canoeing 180 miles, it makes me feel like a "goal" was achieved--for I wasn't too sure I would make it.

6. What have you learned about outdoor group leadership from your experience? The observation of the investigator is that three factors worked together to enhance the leadership focus of the Case study. The first was the structure that has been outlined in terms of the groups. Each group had one or two strong leaders who tended to stand above the rest in outdoor situations. The rest of the subjects were so new to the outdoors that by contrast the peer group leaders were strong. Second, in the first expedition the P-group was directed to choose a leader who would make the final decisions if there was a conflict about the direction to be travelled. Third, the rigors of the canoe trip accentuated the need for clearly defined leaders. They not only began to be seen by others in this role but began to perceive themselves as such. The leadership team being all male tended to refer to the P-groups in terms of the peer leader (RO) in each group thus reinforcing the subjects' perception.

> I was chosen leader . . . and had very little difficulty finding the way back to the vans for the group.
>
> I was surprised people asked me which way to go . . . I told them and to my surprise I was almost right. I felt good about being chosen leader for our group. Maybe I'm not so dumb after all.
>
> This trip gave me a real opportunity to look at myself as a person with some leadership qualities and to analyze my feelings toward the outdoors, nature, God and people we are with from day to day.
>
> I learned a few psychological techniques about group living, how to control groups and to be much more observant of others.
>
> I was frustrated in knowing how to handle the situation. Y had to be asked to do something before she would do anything.
>
> We had gone so far I found myself getting very irritable and frustrated with myself as a person and others when they didn't measure up to my standards. It gave me a good chance to evaluate myself as a person and a leader and I think I just may make it.
>
> It is great to know that the physical test is passed. Also I know the mind can function in overcoming physical stress and pain. It is in the mind of the person where the accomplishment lies.

III. SYNTHESIS OF DATA AND CONCLUSIONS FOR CASE E

The basic research questions pertaining to a synthesis of the results for Case E will be presented in this section.

A. OUTCOMES OF OUTDOOR GROUP EXPERIENCES RE SPECIFIC OBJECTIVES AND CORRESPONDING SELF EVALUATION ON SELF ACTUALIZATION

Question AI: What is the Effect of the General Outdoor Education Group Experience on the Self Actualization of Composite Outdoor Self, Self Attribute Factors and Total Self Evaluation?

A. Composite Outdoor Self (SI)

The conclusion arrived at is that Case E changed significantly on the inventory (A. 1, p. 217) but in relation to Case A and B was closer to the middle of the continuum. It becomes apparent from the subjective data (B. 1, p. 220) that even though the overall OSI was changed significantly this change was one that was in a broad spectrum encompassing a variety of needs. Little was mentioned about a great feeling about the overall experience.

> This trip was a real emotional high for me. One minute I could cry, while the next I'm really super content. (B. 1, p. 220)
>
> The trip has given me a greater understanding of nature and God and a broader outlook on the future of life on earth. (B. 1, p. 220)
>
> The trip helped me in my outdoor skills again and I think I would like to repeat the course. (B. 4, p. 223)

B. Outdoor Self Attribute Factors

Case E has registered a significant change in each Scale with the greatest change occurring in Scale 4--Outdoor Sportsman. However, in terms of Case comparison the most profound effect is in Scale 3--Outdoor Group Leader.

B^1 Sensory Awareness Outdoorsman. The data in Table 30 (p. 218) shows that Cases A, E, B all changed more than the Control but not necessarily that much more than Cases D and C. A reference to the qualitative data reveals

1. Group Interaction (B. 2, p. 221). The groups in this study did not seem to develop in units very effectively. The most were effective as working units but really did not share or know how to resolve their interpersonal and organizational problems. As a result evidence indicates that certain individuals within each group tried to modify their behavior to make things function smoothly. The words patience, tolerance and cooperation were mentioned freely. Therefore people may have become more sensitive to the feelings of others but did not effectively resolve their differences. Attraction to the group (Festinger, 1954), affiliation (Mehrabian and Ksionsky, 1972) and group unity (Zander, Stotland and Wolf, 1960) and collective goals (Deutsch, 1959).

2. Environment. The individuals tuned into the sounds, sights and sensory awareness experiences in the environment. Their comments on the beauty, majesty of nature, the greatness of creation and God indicated a deep sensory awareness:

> Leader (8) let us sleep while he steered the canoes--boy, was it ever beautiful, just listening to all the sounds, feeling the wind blow across our faces and hearing and feeling the waves hit our canoes. It was one of the best times on the whole trip. (B. 3, p. 222)

> The devotions we had were really neat, sitting on the hill, looking over the valley, the sun beaming, and taking time to say thanks to God for everything we have in abundance. (B. 3, p. 222)

B^2 Skilled Outdoorsman. In comparison with Case A and B one must place Case E one subset down in the change continuum really not too far from D yet significant since it registers more than Control. The qualitative data suggests many students responded to the extra time given to learning the basic woodcraft skills on the backpacking expedition as well as on the canoe section.

> My highlight today was chopping that big log in half during our axemanship session. I enjoyed the compass work but it was sure hot. (B. 4, p. 223)

B^3 Outdoor Group Leader. It is in this Scale one finds more change for Case E (Table 31, p. 219) than any other Case. This is also supported by the qualitative data where the Ss referred to the leadership roles in their various groups, not only identifying the leaders but being both critical and complimentary about them. This identification process appeared to be cyclical and as the course progressed the RO or peer leaders started to assign leadership roles to themselves. The conclusion is that if certain individuals begin to be defined as peer leaders by the structure, the instructors and the Ss they will start to play out that role. (B. 5, p. 224)

B^4 Outdoor Sportsman. The conclusion is that the students saw the area as the most worthwhile both in the inventory and on the qualitative data. The activity is not as strong as for Cases A and D in terms of continuum scores but this difference is not significant. In comparison to the Cases in the fall these subjects were the most interested in orienteering.

> I feel good about all aspects of the trip especially orienteering. (B. 5, p. 223)
>
> I would like to go in a big orienteering competition now. (B. 5, p. 223)

The response to canoeing and the physical stress of the trip only appeared to increase the challenge of the experience.

C. Self Evaluation and Total Self Evaluation and Outdoor Self Evaluation.

There is next to no correlation between the TSE and the OSE (A. 3, p. 217). However, as indicated in Table 13 (p. 92), there is a small positive change in the TSE mean with a large SE change. In the light of self theory the TSI is a central core that involves a great number of subscales. It should not change as much as the OSI to be significant, but due to the measurement technique the score comparisons will never be near significant. A look at the qualitative data does not give the same overall statements of change as in some of the other Cases and thus we can conclude that is why this Case has such a low rating compared to some of Cases B, C, or D.

Question AII: What is the Effect of Unique Case Modification of Leadership, Group, Environment, and Curricular Processes on Self Actualization of Composite Outdoor Self, Self Attribute Factors and Total Self Evaluation?

A. Leadership Modification

In this Case the leadership team had more of an impact than in Cases B or C due to the fact that all three leaders were present for the total of the two expeditions. Leader (8) was close in age to the Ss and was able to provide an additional model in which some of the group could identify. This commitment of time by all three leaders to the course gave more time for communication between Ss and the leadership team.

B. Group Modification

The group structure in terms of male, female balance, numbers, and the lack of communication skills detracted from the development of a strong group identification. About 40 percent of people expressed the point they would have been just as happy with some other combination of people.

C. Environment

The environment provided an easy challenge with the beauty of the fall scene. However the lack of mountains reduced the awe-inspiring responses from Case A and D. The astute use of what fast water was in the lower Saskatchewan and the long days of paddling provided somewhat of a challenge yet this term was used only sparingly. The use of the environment to provide the challenge to learn white water canoeing at a beginner level and the orienteering competition served to score high on the Outdoor Sportsman Scale. The environmental games and emphasis on becoming tuned to nature's sounds and rhythms had its concomitant effects on the score on Scale 1--Sensory Awareness Outdoorsman and the subjective responses.

> Then we went up on top of a big hill. It was really peaceful up there. He told us to be still and quiet for 5 minutes and pretend we were rocks that had been there from the beginning of time. The scene was beautiful with the last rays of the sun dying on the western rim and coyotes howling in a chain from south to north. It makes you feel good that you can be one of God's children in our wild and free universe. (B. 1, p. 220)

D. Curricular Processes

1. The step-by-step instruction in the basic camping skills and the use of tools appeared to be beneficial in the overall SI of the group according to the inventory (Table 30, p. 218) and from the positive feedback of the subjects (B. 4, p. 223).

2. Infusion of principles through morning thought for the day, and through the value lecture before the canoe trip helped some students to attempt personal modification of behavior to make living with others more peaceful.

> I get impatient with the guys in my group sometimes--then I remember what Leader (1) said about not trying to change people to be what you are like. (B. 1, p. 220)

However in terms of those people who put themselves and their habits first before the welfare of others in the group little occurred because of the purposeful lack of group sessions that were normally initiated by the leadership team.

3. The strategy forced on the leadership due to the nature of the student population caused a unique structuring of the groups. Thinking that in a group with three females it would be better to place a male highly skilled in the outdoors who was also committed to someone outside the Case, this plan was followed. This resulted in a complete lack of interest in the male by the females except in his usefulness to them as a task leader. They elected him to the position of leader and on the whole left him with the majority of the work. In addition the males tended to try and dominate in the procedures of camping to the resentment and resistance of the females. (B. 6, p. 244)

> I was frustrated in knowing how to handle the situation. Y had to be asked to do something before she would do anything around camp.

On the other hand the placing of strong outdoorsman in all groups forced them into leadership roles, and the reference to them as such by the leadership team, and members of the P-groups; the placing in situations where they had to make decisions for the group caused them to see themselves as leaders.

> I was chosen leader . . . and had very little difficulty finding the way back to the vans for the group. (B. 6, p. 244)

Question AIII: What is the Effect of Subjective and Objective Public Evaluation on the Self Actualization of Composite Outdoor Self and Specific Self Attribute Factors?

It was found (A. 4, p. 218) that there was little significant difference between the OPE and that of the OSE. The way the Ss saw themselves at the end of the course was similar to the way those in their P-group rated them. When the Scales were analyzed individually it was found that on Scale 2--Skilled Outdoorsman the OPE score was higher than that of the OSE. Comparison between Table 14 (p. 94) and Table 15 (p. 96) revealed that the Ss rated themselves lower on the pre test than their peers and were still lower on the post test concept for Scale 1--Sensory Awareness Outdoorsman. It is of interest to note that the OPE for Case E followed the consistent pattern set for all Cases. In every Scale, Case E rated third and the OPE evaluation in comparison to all other Cases was at third.

In camping the changes that occurred from pre to post test one finds (A. 5, p. 218) that in all Cases OPE changed less than the OSE. A modest change took place for all Cases in Scale 2 and Scale 4.

B. OUTCOMES OF OUTDOOR GROUP EXPERIENCES AS THEY RELATE TO LEADERS, REFERENT OTHERS AND SUBJECTS 'IMPORTANCE' RATINGS OF SPECIFIC OUTDOOR SELF FACTORS

Question BI: What if any is the Unique Effect of the Value Leaders Place on the 'Importance' of Specific Factors in the Outdoor Experience?

Leaders responding to the 'importance' ratings of the inventory had a high overall mean of 8.387 (Table 16, p. 98). The difference between the four Scale means and the differences between Cases was not significant. The qualitative data in this Case suggests that even though the emphasis on the importance ratings is similar that the structure of the course provided for more emphasis than in Case C, in that all Leaders (1), (6) and (8) were present for both field expeditions. Leader (8) was able to continue to help in the orienteering.

Question BII: What is the Relationship Between the Value Leaders Place on the Importance Ratings of Self Attribute Factors and the Response to Those Factors by Referent Others and Subjects?

The data in Table 17 (p. 100) implies that the RO moved closer to the Leaders in the post test than the pre test. The RO is also closer to the Leaders than the Ss in the post test. The RO in terms of change (Table 31, p. 219) moved closer to the Leaders than the Ss did on Scales 2--Skilled Outdoorsman and 3--Outdoor Group Leader. The RO moved closer to the Leaders in Scale 1--Sensory Awareness Outdoorsman and went far beyond the Leaders in Scale 4--Outdoor Sportsman. The general trend of the Ss was to move away from the Leaders in a negative direction on all Scales including Scale 4 -0.925 as compared to the RO +0.269.

The conclusion that the data supports is that there was a regression by the subjects away from the Leaders' values and a modest move of the RO toward the Leaders' value rating in all but Scale 4--Outdoor Sportsman where the students regress towards the Leaders' values by +0.041 points to a level of +0.285, with the RO moving beyond the Leaders' values by +1.156 points on the post test.

Question BIII: What Characteristics were Evident that may have Caused the Subjects to Choose their Peers as Referent Others in each Case?

The choice of RO in this Case was related primarily to the capacity to perform the outdoor skills well and, second, the person's willingness to do more than their share even if they were not always to compromise in the way of doing it. Two males of the five leaders were capable of interacting on a low profile in terms of leading a group in a socio-emotional way. The other three did not have these skills but tried to make things run smoothly. All of the ROs were relatively quiet, stable and even tempered with the exception of one who was lower on the overall choice and who was more prone to move from one level of emotion to the other depending on the situation. The outstanding characteristics were that all the RO were physically strong, tough-minded and highly-skilled. They were not strong socio-emotional leaders but were able to accommodate new ideas, and were always willing to do more than their share to make the group work smoothly.

CHAPTER V

SYNTHESIS: GENERAL PRINCIPLES DERIVED AND UTILIZATION OF THESE IN THE CONSTRUCTION OF AN OUTDOOR EDUCATION GROUP PROGRAM DEVELOPMENT MODEL

Introduction

This chapter will attempt to draw together the conclusions derived from the Case studies as principles, some of which have implications for the Outdoor Education group program development model. The theory and model development which is in the last section of the chapter is the result of the modification of the program and treatment effect from each Case and the resulting data and results that emerged from this organization.

I. GENERAL PRINCIPLES DERIVED FROM THE CASE STUDIES

A. OUTCOMES OF OUTDOOR GROUP EXPERIENCES ON THE SELF ACTUALIZATION OF COMPOSITE OUTDOOR SELF, SPECIFIC OUTDOOR SELF ATTRIBUTE FACTORS AND TOTAL SELF EVALUATION

Question AI: What is the Effect of the General Outdoor Education Group Experience on the Self Actualization of Composite Outdoor Self, Specific Outdoor Self Attribute Factors and Total Self Evaluation?

AI_A Composite Outdoor Self

1. Groups of University students and other persons who voluntarily participated in outdoor education courses that contained wilderness expeditions of more than 8 days duration will experience a significant change in their outdoor Self Identity. (AI_A: Case A, p. 126; Case B, p. 150; Case D, p. 199; Case E, p. 225)

2. The direction of this change is contingent upon clarity in objectives by the institution, management congruent with those objectives by leadership, the development of the group, the utilization of appropriate curriculum elements and the choice of environment. (AII: Case A, p. 129; Case B, p. 153; Case C, p. 177; Case D, p. 203; Case E, p. 228)

3. When the objectives are fulfilled through the leadership, group, curriculum elements, and environment, the extent of the Outdoor Self change will be of greater magnitude if the subjects live together as a community for a minimum of 20 days in the outdoor environment. (Comparison Cases A, D with Cases B, E, C)

4. Composite Outdoor Self Identity change is strongly related to being adequately prepared and trained to cope successfully with nature's challenges. ($AI_{A,\ B,\ C.}$ $AII_{A,\ B,\ C.}$ All Cases)

AI_B Outdoor Self Attribute Factors

The four factors measured via the Scales are by no means all the factors in the outdoor scene. These particular factors to a great deal refer to particular types of outdoor persons. On each one there is an overlapping into the other as was attested by Table 6 (p. 60). The evidence of the data substantiates that Scale 1--Sensory Awareness Outdoorsman encompasses a much wider range than the other Scales. It is the investigator's observation that the subjects who had the attributes defined in Scale 1 were the most capable in dealing with people on an interpersonal basis in the groups, and also understanding the depth, mood and nuances of nature. This factor does not necessarily measure the quantitative cognitive knowledge about people or nature.

General Principles Regarding Factor Results on Scales

The response to the Scales was contingent to a great extent upon the previous experience and development of the subjects. The greatest changes occurred in areas where subjects had little or no previous experience. The Scales 1--Sensory Awareness Outdoorsman and 3--Outdoor Group Leader had higher pre test means (Table 12, p. 91) than the two other Scales due to the fact that the attributes within the former are those that are common to life in a country environment, living with other people. Therefore factors that will receive the greatest OSI change are those which are exclusive to the outdoor wilderness setting.

$AI_B1_{1.2}$ Sensory Awareness Outdoorsman (Group and Environment)

The supporting evidence for the following principles is primarily located under AI_{B}^{1}, $_{B}^{2}$, $_{B}^{3}$, $_{B}^{4}$ in Case A, p. 126; Case B, p. 150, Case C, p. 173; Case D, p. 200; and Case E, p. 225. To enable readers to focus on the Cases and/or sections that made the greatest contribution to a principle, statements will be followed by reference. If it was the result of cumulative evidence from all Cases no reference will be made other than the one above.

1. Subjects who have these attribute characteristics appear to relate equally well to people as to nature. Cases A, E, B had significant changes on this attribute, Case D rated it equally high on the pre and post test.

2. The resolution of interpersonal conflict in a group depends on the desire of persons to invest in other people.

3. Those people who desire to maintain in-group-rapport are best able to do so if they have had experience in communication skills, informal or formal and who have been involved with groups where they have had to make meaningful "risks".

4. If there is little guidance in communication skills, and group debriefing, those individuals in the groups that want to achieve good group functioning, will accommodate by attempting to be more tolerant, patient, cooperative and long suffering (Case E, B).

5. Personal modification of behavior by subjects to accommodate to the desires of rigid P-group members will eventually result in a breakdown in group function as the stress of the experience increases.

6. Group communication skills and debriefing sessions enable subjects to function more effectively with each other under all outdoor living conditions (Cases B, D, C).

7. The degree to which Ss are willing to invest in others in the experience will be the level they will risk to develop intimacy in the group.

8. The more rigorous the experience, the more efficient the group will become in coping with the stress, if the subjects want to prove they are capable of coping. At the same time they may not invest heavily in each other.

9. The greater the external threat to the survival of the group, the closer its members will be drawn together, particularly if all members are perceived as contributing to overcoming the challenge (Case B).

10. Mountain grandeur had a greater impact on the Ss sensory awareness feelings, than the beauty of other land forms, particularly for Ss from the prairie environment (Cases A, D).

11. Subjects respond to the beauty of nature more holistically if they are taught to use all the senses in a holistic manner.

12. The three characteristics of the wilderness environment that have the greatest impact on the subjects are: the intrinsic beauty of the natural world, the power of her elements, and the intricate majesty of

her creation.

13. Living close to nature, observing the complexity and interrelationships of living organisms, being exposed to the spell of her beauty, the power and harshness of her laws confirms the faith of those who believe in God and leads those who are philosophical to draw from the situation a more comprehensive explanation for man and his place in the cosmos (Case A: B. 1, p. 122; Case C: ^{AI}B. 2, p. 175; Case D: B. 1, p. 194; Case E: B. 1, p. 220).

14. To understand the reality of the natural world Ss need exposure that encompasses all varieties of terrain, season, and weather conditions (contrast Case A and B or D and E).

15. As the struggle with the forces of nature increases and if the subjects manage to cope effectively there is a strong feeling of overcoming a challenge and a feeling of self confidence results (Case A: AI_B2, p. 127).

16. Sensory awareness learning is greatly enhanced in nature due to contrasts between cold and heat, joy and pain, fear and serenity and the exposure to a great variety of textures, sounds, smells and visual perceptions.

AI_B2 Skilled Outdoorsman (Refer to discussion on Outdoor Self Evaluation and Objective Public Evaluation, All Cases)

The distinguishing aspect of Scale 2--Skilled Outdoorsman and Scale 4--Outdoor Sportsman is that the attributes of which they are composed are more clearly defined by the Ss than those of Scale 1--Sensory Awareness Outdoorsman and Scale 3--Outdoor Group Leader. Once subjects have had an association with peers or leaders who are highly skilled they are able to establish clear criteria for their self and other evaluations.

1. Outdoor skills are most effectively learned if the experience requires competence in those skills to guarantee the survival of the individual (Case B).

2. The effective learning of outdoor skills results only if the individual has an opportunity to practise the skills--observation of the professionals without subsequent practice does not guarantee learning (Cases A, E).

3. The teaching of skills by peers who are well qualified in the area enhances the values of the skills taught in the eyes of the subjects (Case A).

4. Rapid skill acquisition occurs when at the point of readiness instructors give well executed demonstrations followed by meaningful practice on the part of the Ss (Case B: B^2, p. 151; Case E: B^2, p. 226).

5. If in the living situation a high level of outdoorsman skill is seen as a needed requirement for effective survival, it will take on 'importance' in the eyes of the subjects (Cases A, B, D, E).

AI_B3 Outdoor Group Leader

In the investigation this Factor was regarded as the least important among the Ss. This was partly due to the fact that there were only a few in each Case who aspired to leadership and partly because of the emphasis of the treatment in the experiences. (The exception is Case E.) A number of principles or implications may be drawn:

1. Individuals who are defined by leaders, the group structure, and the environment as peer leaders, will begin to see themselves as leaders and act out this role (Case E: B^3, p. 227).

2. Individuals will rise to a leadership status if they have a combination of task and socio-emotional strengths, and if the challenge of the experience forces them to assume the role of leader. (Question

BIII: All Cases; Case E: B. 5, p. 148)

3. Leaders who attain the power through task orientation and who do not know how to relate to people will lose their power to others as their peers in the P-group become more knowledgeable (Case A: B^3, p. 128; Case B: B. 5, p. 148; Case D: B. 5, p. 197).

4. The characteristic that is most crucial to the leadership process in this setting is the ability to communicate with others and to motivate them to action (Question BIII: All Cases).

5. The outdoor leader earns his position by not only being able to demonstrate good judgment in coping with the challenges of the outdoor expedition but by being able to involve the subjects in this task.

AI_B4 Outdoor Sportsman

In the investigation this Factor proved to elicit the strongest evidence of change. It was a major focus in the experience and most Ss had not been involved in this activity previously. All Cases changed more than the Control with A and D changing the most on the continuum.

1. Activities that are central to the experience of a S, in terms of time, excitement and challenge, will elicit a high level of OSI change.

2. In order for participants to rate an outdoor activity as important to their own SI change, they must perceive themselves as mastering the challenge.

3. The subjects that met the challenge of the rapids recorded a higher level of response to the Outdoor Sportsman area than those who did not have this stimulus (Case A, D, E).

4. Those Ss with a high level of physical and mental endurance were able to cope most effectively with the stress of expedition living.

AI_C Outdoor Self Evaluation as it Affects Total Self Evaluation

The conclusion arrived at in this regard is that the OSE score will be much more affected than the TSE score. When one assesses self theory this is relatively obvious due to the fact that OSE is only one aspect of a multiple of subselves that make up the total self. On this assumption any change of the TSE toward self actualization can be viewed as a positive effect. Scott (1973: 185) found a similar phenomenon with football players. In that there was relatively little difference between the effect of football subself and the participant and the football drop-out as to a change in the total TSI. The conclusion is that any change in a positive direction signifies that there is an effect on the TSI from the activity. To expect a high correlation of a changing outdoor SI with that of TSI is not compatible with the theory of self.

Question AII: What is the Effect of Unique Case Modification of Leadership, Group Environment or Curricular Processes on Self Actualization of Composite Outdoor Self, Self Attribute Factors and the Total Self Evaluation?

AII_A Leadership Modification

The supporting evidence for the principles resulting from unique Case modification, is located under AII_A: Case A, p. 129; Case B, p. 153; Case C, p. 177; Case D, p. 203; Case E, p. 228. To enable readers to focus on the Cases and/or sections that made the greatest contribution to a principle, statements will be followed by a reference. If the evidence for the principle is taken from all Cases no reference will be indicated.

It was found that in terms of importance ratings all Leaders rated the four Scales high with an average mean of 8.387. There was very little significant difference that could be observed even with a comparison of means except that, if any, all Leaders rated Scale 4--Outdoor Sportsman slightly lower than the other Factors (Table 16, p. 98).

1. It was found that the inclusion of young leaders in the leadership team who are highly skilled in task and/or socio-emotional areas creates a greater possibility for identification by the Ss.

2. If the leadership team has a variety of personalities who are functioning together effectively committed to the same philosophical stance, the Ss leader contact can be effectively increased and the cumulative effect on the Ss is more powerful.

3. Leaders are more effective as models if they live out the life style and value system that they expect the Ss to identify with in the objectives.

4. If the leadership is to succeed each member of the team must be given an area of expertise, that they can handle to accentuate their importance or value to the expedition.

5. Regular leader group meetings to maintain communication flow, and resolve feelings over conflicts of interest are essential to guarantee effectiveness of the leadership team with the Ss.

6. The ideal formula for effective leadership is to have every person equally strong in the task and socio-emotional areas. Assuming this to be impossible then there must be a balance of both facets to meet the requirements of the outdoor learning situation.

7. The leaders must be perceived as successfully coping with the challenge of the experience to establish their credibility as outdoor models.

AII_B Group Modification

The P-group was the basic unit in which the members lived during the entire period of the wilderness expedition. These groups were structured according to the criteria found in Case A (p. 111). Each Case had a differing emphasis on group communication and interpersonal relations skills plus a differing stress by the environment. After assessing the process as it functioned in this setting the following principles are presented, some based on the results from individual Cases, and some based on the overall observation by the investigator:

1. The placing of Ss in groups according to areas of strength lessens the risk factor and increases the freedom to send groups out on their own.

2. The placing of Ss in groups according to areas of strength increases the opportunity for everyone to gain status in the group.

3. The placement of males and females in the group helps the subjects to learn to appreciate and understand the opposite sex. The conflict between the over chauvinistic males and the more liberated females became a growing experience for both parties (Case B: B. 5, p. 148).

4. The ideal groups had 5 members with 2 males and 3 females, or 2 females and 3 males. This finding corresponds with the research of Slater (1958), and Frank and Anderson (1971), that groups of 5 or 8 are better for production. This investigator recommends 5 members to aid the decision making process and to help in keeping the groups from breaking into 2 dyads that may hinder the decision making process (Case E: AII D. 3, p. 230).

5. The male to female ratio should never be 4 to 1 in either direction. If there are 4 females and 1 male, there is a tendency to

automatically elect him leader regardless of merit (Case E: $AII_{D. 3}$, p. 230). Conversely if there are 4 males and 1 female the tendency is to automatically relegate her to position of cook even if she is a competent outdoorsman (Case D: AII_A, p. 203). This phenomenon was first observed in Case C where one P-group lost a girl from sickness.

6. A balance of socio-emotional and task-oriented persons is desirable for optimum success in coping with the challenge of the environment and living together.

7. If the objective is to create a strong level of intimacy and cohesiveness in a P-group, it is more important to have persons with a high level of socio-emotional skill than those with a high task-orientation. This is contingent upon the leadership team being able to solve all the major emergency situations.

8. Group communication skills, if initiated before the expedition and if practised during the expedition, will facilitate group growth.

9. The structuring of total camp sessions during the early stages of the expedition where everyone related where they are at in the experience is an aid to facilitating openness in the small P-group debriefing sessions.

10. The boundaries of community life and the ethical values on interpersonal behavior are best defined prior to an expedition if Ss are going to voluntarily support these precepts.

11. The purpose of the debriefing process is to deal with here and now feelings in human and environmental interaction. Its purpose is not to attempt the solution of individual deep seated personality problems. This aspect should be left to the psychiatrist or psychological counsellor.

12. Group focus is enhanced by providing opportunities whereby the P-group can resolve problems by itself--isolated from the support of other groups.

13. Learning of outdoorsman skills is best facilitated in a group if a structure is worked out early in the expedition whereby everyone tries every learning area with the help of the skilled. Following this a flexible system of camp duties will enable the group to be most efficient as long as this system is monitored by the leadership team.

14. The best short term group constellations result if there is a negotiation between leaders and subjects with the Ss submitting their first five choices to the leaders and the leaders at the same time equalizing group skill strength on the basis of the risk factor.

AII$_C$ Environmental Impact (Case D, E)

1. To utilize the short time subjects have to live in the outdoors, sensory awareness exercises to experience the environment more fully should be used to produce an increased overall awareness on the part of the subjects.

2. The environment chosen will have a unique effect if the Ss have not experienced that habitat to a great extent on other occasions.

3. Travelling a river from its origins in the mountains to its meanders through the plains and subsequent increased use by man is an indepth educational experience (Case C: B. 1, p. 169; Case D: B. 1, p. 194).

4. An environmental conscience develops more effectively by living in the outdoors in a manner that takes into consideration ecological principles than by the ingestion of descriptive facts about the environment.

5. Nature will provide a challenge for every individual at the level he or she is willing and ready to risk.

6. If the goal is to provide a challenge whereby the subjects' confidence is built, then the perceived risk must be great enough that

the S when he has succeeded will have a feeling of self worth (Case B: B. 6, p. 149; Case C: B. 6, p. 172; Case D: B. 6, p. 199).

7. To really understand survival techniques, subjects should not only live in the land but live off the land. (This means selection of settings that will support this resource use.)

AII$_D$ Curriculum Elements

Curriculum elements are those items infused into the curriculum by the leadership team in order to bring about the desired treatment according to the objectives:

1. The sense of community built on an expedition is more powerful if the Ss are isolated for a period of at least 10 days rather than by splitting the experience into two parts with a period of time separating each.

2. The learning of how to prepare for an expedition and the concomitant learnings from reassessment of errors best occurs if the expeditions are split into two parts with a period of time separating each.

3. The sequence in conducting expeditions produces the best learning of a variety of factors other than survival skills if the minor expedition is held first followed at a later date by the major expedition.

4. Once a goal is set by either the leadership team for the group or with the group, it should be carried out unless the risk is such that the hazards are too great. This is necessary if the group is going to have a feeling of accomplishment (Case A, B).

5. To increase the challenge of the environment the leadership team can increase the perceived risk through planned strategies, i.e. have P-groups find their way alone through an area of forest, or if the river is lacking in enough rapids, camp next to a series of good rapids and make repeated training runs through them.

6. When the expedition experiences are near the beginning of the school term those activities related to group life should be terminated soon after arrival back at the institution since people are no longer in a group situation where their actions have consequences (Case C).

7. The initiation of each day with the thoughts of great men, in poetry, or verse, philosophical, religious or aesthetic, helps Ss to put into words their own inspirational thoughts about the beauty and power of nature. It is a strong element in community cohesiveness.

8. The programming of a community project or crisis will bring about feelings of being a team in a common venture. There needs to be an activity of this nature early in the experience and near the end of the experience for maximum benefit.

9. The defining of situations, and the reference to a group in the name of a student picked out for leadership will focus a transfer of confidence from the leader to the peer leader in the minds of the Ss. If the peer leader fulfills the expectation of leadership role, then the cyclical process of leadership feedback will begin to develop in the group (Case E).

10. If the time is limited the inclusion of a new element into the curriculum means that another element must be included or modified to be included--this is what is meant by trade off.

11. If a principle regarding the environment or personal relations to people is to be effectively internalized by the student, strategies must be implemented to have it lived out in the real situation.

12. The learning of new attitudes and skills is enhanced if the Ss have an early encounter or confrontation with reality; that is, they are evaluated in the area to be learned. Even a simple endurance run at the beginning of a course emphasizes where one is at in terms of the

expectations of the expedition.

13. The curriculum elements to be functional need to be clearly planned for the experience, and infused into the situation at a time of the Ss readiness to learn. This readiness can be conditioned or result from response to the impact of nature.

14. When the program focuses on the beauty and the worth of the natural world in an unpolluted state then Ss if guided will be willing to pay a price to clean up a polluted wilderness area.

15. Subjects will learn best if in the real situation they need a higher level of skills to survive comfortably.

Question AIII: What is the Effect of Subjective and Objective Public Evaluation on the Self Actualization of Composite Outdoor Self and Specific Self Attribute Factors?

The evaluation by significant others is central to how the self develops and defines itself. The Objective Public in the investigation cannot be confused with the "referent other" as defined by French and Raven (1960) or by Sherwin (1962) earlier in this study. It is more the primary group concept defined by Cooley (1902) without always having the close bonds of a primary group. The subjective and objective public in this study is the P-group in each Case which often contain the Referent Other for subjects in the group, but often does not contain the referent others. Yet it is from this group that the person is able to establish a comparison and is evaluated by others. Festinger (1954: 117) has hypothesized that "there exists in the human organism a drive to evaluate his opinions and his ability". The Cases studied provided the base for the following principles, where the supporting evidence is found in Case A, p. 132; Case B, p. 155; Case C, p. 180; Case D, p. 207; Case E, p. 230.

AIII_A The members of all Cases evaluated themselves (OSE) in a manner not significantly different than their P-group (OPE) at the end of the experience.

1. The members of outdoor group experience living in a small P-group define their level of change in terms of their P-group.

2. The members of a P-group in the outdoor group experience defined themselves in terms of referent others, both student and leaders in the outdoor situation. In every Case the referent other was closer to the leaders' values than the subjects.

3. The Ss evaluate themselves in the outdoor situation in many parameters by the test with the challenge of the forces of nature.

4. The P-group appears to be able to give a more precise evaluation of a S in the areas of skill than in the socio-emotional area.

AIII_B In assessing the change that occurred from T_1 to T_2 by Ss it can be concluded from the evidence that the Ss evaluated themselves much lower on the pre test than the OP, who in the new situation tended to be more cautious about giving others negative values. This phenomenon no doubt occurred due to the fact that all Cases but Case D were primarily composed of subjects unfamiliar with the outdoor environment. In Case D reference to Table 28 (p. 191) shows the high pre test means for all Scales except Scale 4--Outdoor Sportsman.

1. The conclusion then is that inexperienced subjects rate themselves lower than they rate their peers at the beginning of an outdoor experience and at the end of the experience tend to rate themselves the same as their peers (All Cases, Question AIII).

B. OUTCOMES OF OUTDOOR GROUP EXPERIENCE AS THEY RELATE TO LEADERS, REFERENT OTHERS AND SUBJECTS 'IMPORTANCE' RATINGS OF SPECIFIC OUTDOOR SELF FACTORS

Question BI: What if any is the Unique Effect of the Value the Leaders Place on the 'Importance' of Specific Self Attribute Factors in the Outdoor Experience?

Supportive evidence for these principles is found in Case A, p. 133; Case B, p. 155; Case C, p. 180; Case D, p. 208; Case E, p. 231.

BI_A This question could not be fully answered due to the fact that there was no significant difference in the emphasis by these leadership groups.

1. The leaders had a high overall mean of 8.387 on the post test scores emphasizing that they placed a strong emphasis on the value of the four self attribute factors.

2. There was no significant difference to be found between the importance ratings of the leaders in any Factor.

3. Throughout all the Case studies it can be postulated that the leadership differences in the value they placed on the program was a relatively constant factor in the program treatment effect.

4. One of the unique positive aspects of being a participant observer is that through the choice of leaders the investigator can to a certain degree control the effects of this particular variable.

Question BII: What is the Relationship Between the Value Leaders Place on the 'Importance' Ratings of Self Attribute Factors and the Response to Those Factors by Referent Others and Subjects?

BII_A The results of the comparisons between all 3 parameters indicate very little significant change for the subjects and referent others toward the leaders' values (Table 17, p. 100). Some conclusions that can be drawn that are of importance to the investigation through direct observation of the quantitative data and supported by the qualitative results in all Cases.

1. Referent others (RO) chosen by the Ss are all closer to the leaders' 'Importance' ratings on the four Factors than the subjects' ratings (Table 17, p. 100; Discussion, pp. 99-101).

2. Previous contact with the outdoor wilderness expeditions is a contributory factor in scoring the four outdoor Factors close to the leaders' value rating (Case D: Table 29, p. 193).

3. The ascription by RO to the 'importance' placed on the outdoor Factors may be a critical factor in their choice of subjects as RO.

4. All those persons chosen as RO were those persons who also played leadership roles in the P-groups.

5. Subjects and RO in Cases A and B made significant moves toward the leaders' values on Scale 4--Outdoor Sportsman demonstrating that when an area is an integral part of an experience that produces fear, stress and excitement it becomes unduly important in the eyes of the subject. In Case D the subjects moved farther than in all Cases, but the Referent Other remained constant. Thus the shift was not counted as significant.

Question BIII: What Characteristics were Evident that may have Caused the Subjects to Choose their Peers as Referent Others in each Case?

In this case the two subselves that are most pronounced are the ability to cope effectively with the challenge of the environment and at the same time relate to people in an effective manner. Supportive evidence for this set of principles is found in Case A, p. 134; Case B, p. 157; Case C, p. 181; Case D, p. 209; Case E, p. 232.

1. The referent others in all Cases were also the P-group leaders

or their lieutenants. Therefore it is concluded that those characteristics sought out in a RO are also those characteristics that make one a leader.

2. The most important aspect of being chosen as a RO is whether a person fills the role of an ideal outdoorsman.

3. The two basic areas of importance were the performance of basic task skills considered essential for group survival and the socio-emotional skills for group maintenance.

4. The key personality factor was one of a combination of stability and a sense of humor. Those persons chosen as leaders are able to maintain an equilibrium in their emotional response to others.

II. IMPLICATIONS FOR UNDERSTANDING AND ANALYSIS OF SELF, GROUP, LEADERSHIP CLIMATES AND OBJECTIVES IN THE OUTDOORS

A. OUTDOORSMAN SELF

The Outdoorsman Subself

The results from the investigation give some credence to the suggestion that there is a model that could be used to enhance the educational potential of using outdoor wilderness experiences to achieve educational objectives. It is the intent at this point to use the findings of the study to outline a learning model for the application of the Factors utilized in the investigation. A review of the literature in the early stages of this investigation has based the whole study on the concept of the self. It pointed out that the self has been analyzed and defined from a variety of theoretical perspectives but for this study the intent was to follow a middle road between those who believe the self to be a peripheral and highly changeable perception to those who conceptualize self as a very static unchangeable cognitive structure that is central to the personality. This approach follows the early thinking of James (1890) and more lately that of Turner (1962), Gergen (1971) and Scott (1973) that the self has a more highly valued core at the center that accumulates over the years while at the same time self is flexible and able to present various selves in various social roles. "Rather than speak of the self or self concept, it is much more fruitful to speak of multiple conceptions" (Gergen, 1971: 20). We have stated in this investigation that the total self is the sum of all the self views held by the person where he perceives himself as an object.

William H. Fitts (1971) drawing and expanding on the theory of Combs and Snygg (1949) proposes three principal parts or subselves of the self. There are: self as object (Self I); self as doer (Behavioral Self) and self as observer and judge (Judging Self). He sees the three selves as an internal frame of reference and as the broadest view of looking at one's self concept. But there are many other subselves that are of a more specific nature, such as self as a professional, self as student, self as citizen, etc. The degree of internal consistency between and within these subselves should be related to integration and the effectiveness of which the total self functions. Even though Fitts (1971) developed the Tennessee Self Concept Scale based on his theory of his more central subselves the investigator chose to reorganize and assess the structure proposed by Sherwood (1963) which was used to indicate a set of relations between perceptions and self as object.

The basic unit in the system was the cognitive experience called the attribute. It was the smallest entity in the theoretical system. It corresponds to a precept, cognition, cue or symbol by which a person communicates objects, ideas or events in his experiential world. The assumption was founded on the principle that a person's cognitive world takes on meaning for him when he learns the accepted meanings of words and gestures used to define the ideals, aspirations, respected performances, personal qualities, position and role requirements and definitions of objective reality of his external world. These learned symbols serve as images or plans for the behavior and characteristics they define. A collection of individuals when they participate in the natural environment as a group begins to define each other in terms of how the formal and informal leaders construct the environment.

Just as a child begins to define himself through actual and imagined symbolic communication with members of his immediate family (Elkin, 1960) so to the individual defines himself through others in the outdoor situation (Manis, 1955). He learns to identify himself in terms of the public image that develops as subself outdoorsman. Those attributes that define outdoorsman which are most closely consistent with his (Festinger, 1957) self view will initially take on the greatest salience. As he is drawn into the matrix of the natural world, its activities, sights, sounds and smells, and as significant others begin to interpret and define that world, and enunciate what activities are most important and he will via comparison (Festinger, 1957; Brim, Wheeler, 1965) begin to define more clearly his own subself outdoorsman.

The image of self as an outdoorsman then is a resultant process of weighing his presently perceived outdoorsman images with his previously held outdoorsman and related self images. The process of weighing and re-evaluation of self attributes, involves the same principles of cognitive consistency found in the development and change of all important attitudes (Lifton, 1961).

The process then is circular, a causal chain in what would be as Maslow states "the drive for self-fulfilment" (1968: 189-214), the novice outdoorsman learns to see himself and his aspirations as defined by significant others and the leaders. These self definitions motivate and guide his expectations and performance. His and his referent others perceptions of these feed back upon and reinforce the previous images.

In social interactionist theory then we not only have the self as a subject and as an object interacting with others, we have the subject developing a perception through comparisons with an object that is termed "the ideal" (Maslow, 1954; Rogers, 1951; French, 1960) by the phenomenological school. The ideal self identity is the totality of self attributes which the person would ideally like to impute to himself (Sherwood, 1968). These ideals may be perceived as unrealistic, considering a subject's evaluation of his past performances, and the cyclical feedback from referent others. To cope with this discrepancy between the real self and the ideal self Sherwood used the term "aspired-self" or that self perception that the subject feels he can achieve in relation to his "ideal" self. The aspired-self was to become those possible subroles in which the subject can see himself achieving rather than the ideal which he may never reach. In this investigation it was found that the ideal and the aspired self fused on the positive end of the continuum and since experts both instructors and students had defined the ideal 22 characteristics for an outdoorsman that subjects on the whole who had never been in the outdoor scene took the positive end of the continuum as their ideal primarily because they saw it being defined as ideal or aspired ideal.

This phenomenon on the part of the subjects forced the investigator to establish the ideal/aspired ideal as an absolute point rather than a moving point in order to preserve the reliability of the scale. A more elaborate discussion of this point can be found under Test-retest reliability (p. 60).

The assumption was that this investigation would deal with a number of outdoor self attribute factors that would make up part of the total outdoor self. The total outdoor self is obviously an expanded role that includes usually sub-roles that involve many personal, social, ethical, cognitive and motor skill attributes. For example in Alberta it is difficult not to know and see oneself as an outdoorsman without including in that perception the basic means of transportation into the wilderness: backpacking, canoeing, and snowshoeing. On the other hand a person can perform any of these motor skills and not perceive himself as an outdoorsman, and yet the particular motor activities, and other attributes, may constitute a core of many attributes that are in subself "Outdoorsman". These constellations are defined by the meaningful statements of persons who have had intensive experiences in the outdoors thus giving a special weighting and exclusiveness to some attributes over others. The term "outdoor cook" includes attributes that may be found in other roles defined

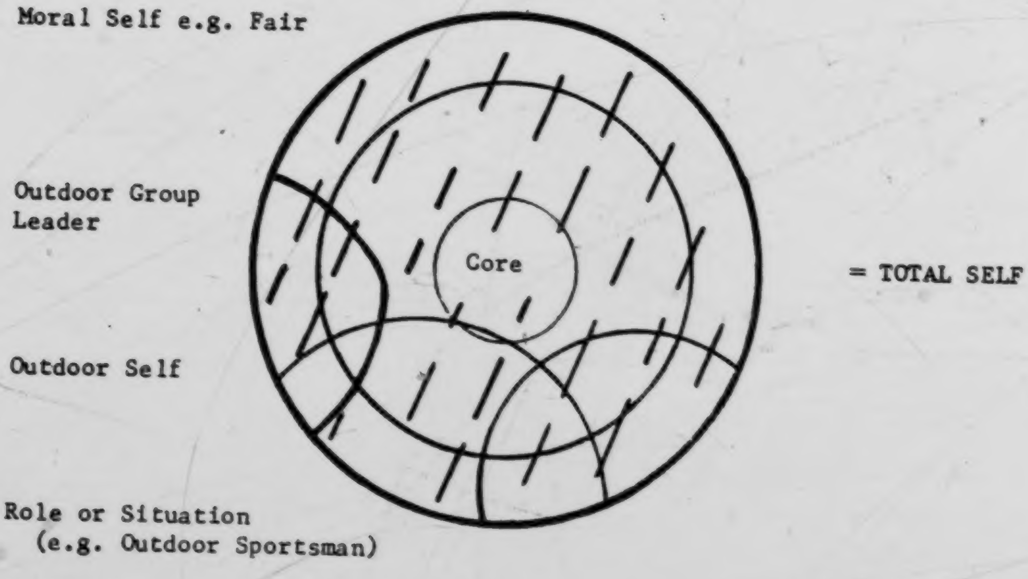


Figure I. View of the Self from a Symbolic Interactionist Perspective.

as part of the more encompassing role of outdoorsman. In contrast a number of terms used to define attributes of outdoorsman-self are more primitive in their function. Terms such as fair, patient, cooperative, etc. cannot be seen as a "role" per se, but are found in all the roles defined as part of the self. The inference in this situation is that when referring to patience, one is referring to the attribute of patience in the outdoor setting. It is an accepted observation, for instance that the personal attribute "patience" is necessary to cope successfully with the physical environment. Whether hunting for game, trapping, fishing or preparing a meal this characteristic is essential for the outdoorsman. In addition when one lives with others in a small family group this attribute is almost crucial to the harmonious functioning of the group in a variety of situations. In Figure I the ethical attribute FAIR is depicted by a complete circle which intersects all roles and is an integral part of the total self. In this investigation that part of the term of attribute "fair" was localized in the Factor, Sensory Awareness Outdoorsman. It was found that during the inventory construction certain attributes were often common on two or more Factors, with one Factor containing the greatest weight of the attribute. As an example the attribute ecological defender could be a part of Scale 1--Sensory Awareness Outdoorsman, or Scale 2--Skilled Outdoorsman, as well as for Scale 3--Outdoor Group Leader yet to deal with the different areas one must localize the attribute in one Scale or the other. The subject in the outdoor scene then views himself as a complex whole but at the same time must, as Secord (1964) suggests, carry out situationally, role-related self behavior in different ways.

Development and Maintenance of Change in Self Evaluation

Self identity evaluation of oneself as a subject and as an object results from interaction with the goals, aspirations, values and challenges of the perceived world. Self attributes in each situation are made applicable for the role to be played. The person usually evaluates himself unconsciously using implicit judgmental standards, defined by observation and through comparison with others in the environment. The manner in which he succeeds in personal tasks in comparison to others and the resultant feedback from referent others help the person determine where he perceives he rates in terms of his objective ideal-self ($AIII_A1$, p. 249). This behavior has been implied by several different concepts: self esteem (Cohen, 1959; Coopersmith, 1959; Parsons, 1955; Shibutani, 1961; Miller, 1962; Sherwood, 1962); self adequacy (Combs and Soper, 1957); self regard (Rogers, 1959); self effect (Secord and Backman, 1964); and self rating (Haas and Maehr, 1965).

As with the sensitivity group participants studied by Sherwood (1962) and the football team candidates studied by Scott (1973) subjects are able to assign themselves a self evaluation on a number of person attributes. The subject's motivation for this evaluation basically comes from the inner drive of the person to, as Rogers (1951, 1959) has stated, there is a "drive upward", seen as striving for perfect completion of a "fully functioning person". This theory of inward motivation toward upward perfection is basic to the theories of Adler's (1935) "creative self" and the striving for superiority; Allport's (1955) "becoming"; Jung's (1958) "concept of the self" and the individuation process; Maslow's (1954, 1969) self actualization or growth motivation and Rogers' (1955, 1959) and Goldstein's (1939, 1940) self actualization.

These and a number of other theorists have postulated that man is more than a response to others. He as a person responds to a drive within himself to achieve, overcome and improve himself. Goldstein in a similar vein to Rogers has stated that the organism has definite potentialities, and because it has them it has the need to actualize them or realize them (1940: 146). Maslow's need hierarchy assumes that the satisfaction of ascending needs constitutes increasing "actualization of self". Maslow's "self actualizing person" refers to a person fulfilling the potentials within himself. Fromm (1947) and Harvey and Schroder (1963) have postulated motivation toward perfection in one's development and the fulfillment of potentialities. Fromm spoke of productivity in man and defined this as man's ability to use his powers to realize his inherent potentialities. Sherwood (1962) in his theory operationalizes the concept of self actualization into two sub types, self-development and utilization. Self-development is concerned with the degree to which a person has developed his positively valued perceived capacities into skills. Utilization is concerned with the degree to which a person typically uses his positively valued skills.

By the term capacity (or potentialities or aptitudes) it is meant the subject's perception that he has the potential to develop skills further than his skills have been developed. That is, he perceives himself as having capacities not yet fully developed. Skill (or competence) means a capacity which has been developed to the point where the person is able to use it. For instance most people have the capacity to be more aware of the intricacies of nature. When these capacities are developed to the point where the person can interpret and understand the sights, sounds, flora and fauna of nature he then has acquired to a large degree awareness. Skill utilization is discussed in terms of typical use, for the same reason, persons tend to assign themselves a self attribute if they perceive it as being characteristic of themselves.

Self-development and utilization is based on the assumption that persons believe that human performance is not something which is totally fixed in the physiology of the organism, but that the level of performance at any point in time is always an interaction of biological and psychological factors.

What in essence is being said, is that self-involvement in a performance means that the performance serves as a basis for self-identity and therefore for self-evaluation. Put together with the theory by Scott (1973) the social interactionist motivated internally to become self-actualized strikes a balance between the two perspectives.

The self-actualizing force within the self drives the subject to perform acts of self development and utilization. These performances are given meaning by the significant others in his social group who reflect praise or sanction; (AIII$_A$ 1, 2, 3, 4, p. 249) thus the person has reflected back to him a positive or negative self evaluation. As Scott states (1973: 25):

> The teenager learns to identify himself and others from those people in his environment who he admires and respects. It is through significant others, such as his parents, teenage peers, occupational colleagues, teachers and coaches that he learns how to identify and act toward the social structure and himself.

In this investigation subjects were allocated to small social and task oriented groups called P-groups. The members of the group became points of comparison whereby the members could compare their perceptions and actions. Festinger (1954: 117) hypothesized that "there exists in the human organism, a drive to evaluate his opinions and abilities". It was found in this investigation that the members of the P-group (OP) evaluation of the members of their group was the evaluation that the Ss gave themselves (AIII$_A$, p. 249). This reveals that what the S sees in

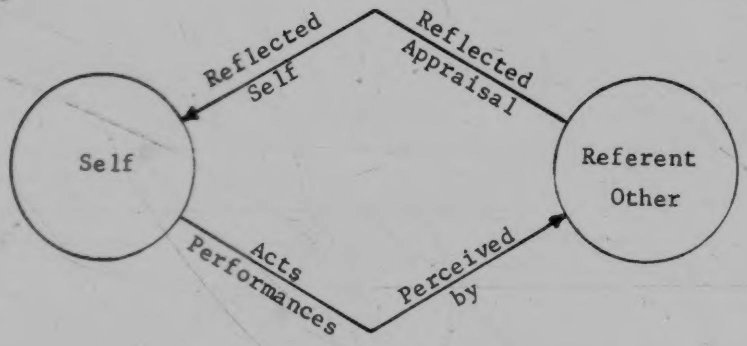


Figure II - Development Maintenance and Change in Self Evaluation

the actions, responses, and feedback of his peers as to his/her performance of physical or social skills is similar to what he ascribes to himself. In addition to the ascribed P-groups there are persons who are termed more significant role models that may or may not be in these groups but who were in the total Case study. This significant other refers to models that function:

> . . . as comparison points, they provide ideal images or models toward which the individual aspires, they implicitly or explicitly hold rewarding or reinforcing power, and they provide the perspective and vocabulary with which the individual defines self and others. (Scott, 1973: 26)

The conclusion in the author's investigation suggests that the referent others (significant other) in each Case study were models in the sense that they could perform by the end of the outdoor expedition the skills that were valued in terms of tasks and people in a fashion better than their peers. They identified more closely with the instructors in the importance they placed on the Factors that were emphasized in the treatment than the Ss (BII_A1, p. 250). The cumulative research on leadership supports the principle that the greater the extent to which a group member absorbs the norms and values of a group, the greater the probability he will emerge as a leader. Having attained the position of a leader or referent other, he tends to act as a strong exponent or defender of group norms and tends to conform to them (Medow and Zander, 1965; Pepitone, 1952; Balma, Maloney and Lawshe, 1958). The Cases that had a wider variety of instructors in terms of sex, age and skill provided more adequate reference points for the subjects than the Cases where there were instructors characteristically of the same age and philosophical view point (AII_A 1, 2, p. 242). This supports Bandura's research (1969: 241) where he states that modelling is more likely to occur if observers feel they have something in common with the model. A person is more likely to be used as a model if he is socially more powerful, highly competent, a purported expert, or celebrity, a symbol of socio-economic success, the same sex and close to the same age as the observer, and the same ethnic status.

Power of Instructors and Peers as Referent Others

The Ss taking a course in the outdoor environment subjects himself to powerful forces for change in the direction of the leadership team and the referent others. It has been found that being isolated from the social mores and values of the general society the subject is now in a Gesellscheft (Tonnies) community where people are forced to respond at a primary level in terms of sentiment rather than secondary relationships.

It is through symbolic communication and interaction the prospective outdoorsman learns the accepted meanings of words, gestures, used to define ideals, and aspirations, respected performances, personal qualities, position and role requirements.

When this community moves into the wilderness the focus for understanding and learning new roles is immediately focused on the leadership team and significant referent others. It has been found that this is due to the following: (Refer to Figure III, p. 264)

1. The society at large in the name of the university has vested power and status in the leaders. They have been appointed to teach a course in Outdoor Education. Havighurst, Robinson and Darr (1965) reiterated by Scott (1973) have found that the "ideal self is deeply influenced by people in positions of prestige because they are perceived as older and more powerful".
2. This is not a laissez-faire situation where the members of the group define those definitions, roles, expectations, but a course where specific objectives, definitions, roles, etc. are defined by the leaders of the society. This view is supported by Bandura (1969), Rosenthal and Jacobson (1968) who have found that individuals in a society strive toward culturally defined aspired models and thus reduce the discrepancy between themselves and the models.
3. The majority of students registering in introductory outdoor courses have had little background in living in the wilderness. There is an expectancy on their part for the leadership team and for referent others to define, explain and reinforce those aspects that will help them to cope more favourably in the outdoor world. (Stogdill, Scott, and Jaynes, 1956)

4. The outdoor situation usually provides opportunities for the leader to demonstrate his expertise thus reinforcing his image. In addition other students who have known about the leaders at an earlier date help to interpret to students the important attributes of the leaders ($AII_{A.4\ 7}$, p. 242). (Jacobs, 1971)
5. If the experience is one of high perceived risk the Ss are forced by the situation to depend on the leadership team for their safety and survival, thus creating a dependency situation which one does not usually experience to the same extent in the technological environment.

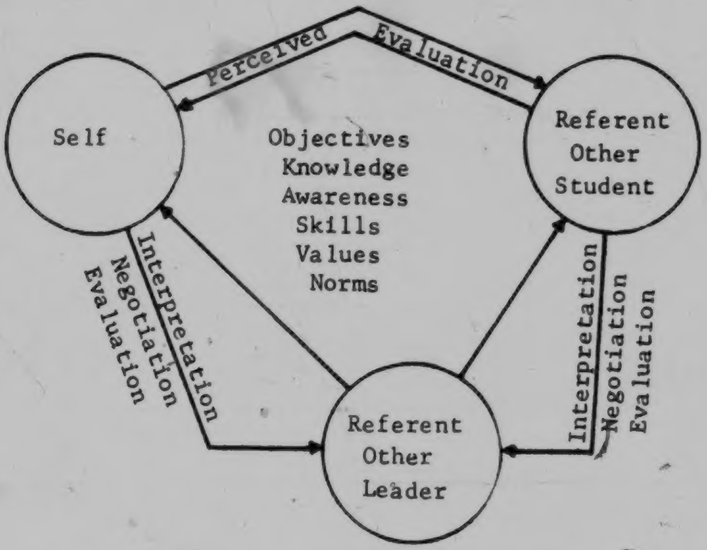

Perceived
Evaluation
Self
Objectives
Knowledge
Awareness
Skills
Values
Norms
Referent
Other
Student
Interpretation
Negotiation
Evaluation
Interpretation
Negotiation
Evaluation
Referent
Other
Leader

Figure III. Structural Power of Leader and Student Referent Other in Self Evaluation.

Interpretation Negotiation and Evaluation

Initially as the leader attempts to define the expectations of the course the subject symbolically interprets what he perceives is applicable to himself. At this stage a negotiation takes place as to what the subject is willing to conform to, accept as relevant, what is congruent with his self matrix and negotiates to a degree those factors that appear incongruent. It is suggested that he makes temporary evaluations (Figure III) of his self image that are based on previous experiences with leadership of this type. The power of the leadership team depends at this stage on factors such as organization, knowledge of the planning process, how they appear to fulfil the cognitive expectations of the subjects.

Secord and Backman (1961: 28) have stated that the fact most individuals do maintain interpersonal structure is a function of the fact that the behavior of others toward the individuals in question is normally overwhelmingly consistent with such maintenance.

To maintain a constant interpersonal matrix, then his self perceptions and self attributes are reinforced or stabilized. The subject entering a course in outdoor education enters a new reference situation, the person's interpersonal environment is changed causing incongruency in his interpersonal matrices. If the incongruency is too great the subject will drop the course thus eliminating negative influence to other members on the course.

Those subjects remaining in the course then place themselves in a position to interact in close communication to the leadership team. It has been said initially that subjects will negotiate how far they will go in terms of what the leader defines as important. Since the leader communicates information about an environment that is controlled by apparent universal laws, what he states reinforces the perceptions and experiences of those who have had life experiences in the environment that are real (BII$_{A. 2, 3, 4,}$ p. 250). Thus the process becomes cyclical in that the leader emphasizes expectations that those who have had experience in the situation count as important; the subjects that feel this fits their self image of outdoorsman are reinforced and those subjects without experience start to receive congruent feedback from referent others who are not on the leadership team.

Secord and Backman (1961: 24-26) have suggested a number of interpersonal strategies which a person uses in attempting to maintain self-congruency in face of self change influences. They point out that the first five processes restore congruency through transforming the O (referent other) matrix component and that the sixth and seventh processes restore congruency through a transformation of the S (subject) behavior component of the matrix.

1. Selective interaction with O's. S will tend to maximize engagement with O's and in activities that tend to confirm or depart minimally from the existing self image.

2. Selective evaluation of O's. S will tend to value more highly those people who confirm his self image and to devalue reference relations who behave incongruently with existing self.

3. Selective comparison with aspects of O. S will tend to selectively perceive those cues from O which maximize congruency with existing self.

4. Evocation of congruent responses from O. S develops techniques for eliciting from O behavior which will be congruent with components of his self concept and behavior.

5. Misperception of O. S may misperceive O's reactions or behavior to achieve congruency.

6. Selective behavior matching. In interacting with a particular O, S tends to use behaviors which will evolve congruent responses from O.

7. Misinterpretation of own behavior. S may misinterpret his behavior so as to maximize congruency with an aspect of his self concept and his perception of O.

Incongruency of an interpersonal matrix leads to a matrix change. Change usually takes place in three steps: the creation of an incongruency, the formation of a new congruent matrix, which involves a different component of self or behavior from that existing prior to the change, and the adjustment of relevant matrices which have been affected by changes made in resolving the incongruent matrix.

The self evaluation of the subject will take on a clearer perspective as the emersion in the meaningful activities and stress situations in the course increases. The conclusion arrived at from the outdoor investigation is that as the total camp is removed from the supports and control of society and becomes a culture in isolation that the impact of referent others will increase due to the perceived danger of the situation. If the leaders and those students who are perceived as referent others are capable of successfully coping with the stress of the environment then the power of the referent others will become greater ($\mathrm{AII}_{A.\ 3,\ 7,}$ p. 242). Evaluation of the self will then take on the form of a "reality assessment" in that there will be a levelling taking place, some subjects will see themselves as better than they anticipated and others will face the bitter truth of their inadequacies ($\mathrm{AII}_{D.\ 1,\ 2,}$ p. 246). When this occurs the previously successful outdoorsman will be much more reluctant to accept a deprecating public outdoorsman image and change his self image, rather he may devalue the expectations of the outdoorsman leader, as found by Scott (1973) in his football study, or employ another strategy of self defense. The novice, however, having only the present frame of reference with which to evaluate himself will be more ready to accept the public evaluation and change.

The Critical Aspects in Leadership

If the objective of the leadership team is to enhance the Outdoorsman Self Image of the subjects as Outdoorsman defined in terms of the Factors, then there are certain priorities that must be the concern of the leadership team. These concerns are outlined in order of importance:

1. Members of the leadership team must subscribe to the objectives of the course not only in their cognitive processes but also in the way they live out those objectives in the real life situation ($AII_{A.\ 3,}$ p. 242). (Bryan and Test, 1967)
2. The leadership team must demonstrate in its own life style that there is a flow of information and that they are resolving their own personal conflicts through the communication process they expect the Ss to use. The subjects will strive for openness if they perceive the leadership team as open and united in their roles ($AII_{A.\ 5,}$ p. 242).
3. Members of the leadership team are required to have the expertise to cope with the "real risk" as well as the "perceived risk" to guarantee the emotional and physical health of the Ss. The curriculum should be structured to enable this aspect to be demonstrated to the Ss early in the course to develop a feeling of confidence in the Ss ($AII_{A.\ 7,}$ p. 242). (Torrance and Aliotti, 1965; Evan and Zelditch, 1961)
4. The leadership team needs to create situations where the unique skills of each may be demonstrated to strengthen the 'importance' to the Ss of every team member ($AII_{A.\ 4,}$ p. 242). This policy particularly for new staff members not only helps them to play the role of the leader more effectively but adds credence for their membership on the team. (Wheeler, 1966)
5. The commitment to a time control plan regarding curriculum elements that are injected into the appropriate teaching situation. This basically states that there must be a thorough preparation of all areas to be taught in the course, but that the teaching of these elements must associate a readiness to

learn on the part of the student. As Shein and Bennis (1965: 39) have stated:

> . . . here and now learning is based on experiences which are shared, public, immediate, direct, first hand, unconceptualized and self acknowledged. Compare this with the conventional ways of learning: through experiences which are vicarious, detached, incomplete, sanitary, overly intellectual and protective, frequently imposed by authority, and often irrelevant.

This type of approach combining structure with flexibility is an aspect that not everyone can function with, hence leaders must either be taught this approach or move into some other educational setting.

6. The leadership team needs models of both sexes, and members who are relatively close to the age of the Ss to facilitate a variety of models for identification, and to increase S leader communication ($\text{AII}_{\text{A. 1,}}$ p. 242). (Bandura, 1969)
7. The leadership team must know and be able to exert the power necessary to control the Ss in the outdoor situation to guarantee the safety of the expedition. The base for this control is formulated during the preliminary days on campus.

B. THE GROUP

Introduction

In defining a group, a synthesis of the ideas of Brodbeck (1958) and Lewin (1948) suggest that a group is a collection of individuals who have relations to one another that make them interdependent to some significant degree. As so defined, the term group refers to a class of social entities having as common the property of interdependence among their constituent members. The group in the outdoor environment is unique due to the fact that it takes the place of the family unit where people perform the basics of subsistence for living. It takes on the basis for a work group, where goals are achieved and it becomes in some cases a client group, where one learns how to improve his/her human relations skills. The objectives of the leadership team will determine the type of emphasis that should be applied to maximize one or all of these goals. In addition, the attraction of a group to an individual will depend to a strong degree as to whether he subscribes to the goals of the leadership team. The attraction to a group may be considered a function of a number of interacting variables. Thibaut and Kelly (1959) analyzed attraction to groups in terms of rewards and costs to an individual that are entailed by group membership. An individual will be more attracted to a group the more favourable are the outcomes he expects to derive from the membership. The objective of the P-group in the outdoors is to provide task maintenance and at the same time provide a laboratory where people learn how to understand themselves and others taking on the possibility of what Rogers defines as a T group:

> In an intensive group, with much freedom and little structure, the individual will gradually feel safe enough to drop some of his defenses and facades; he will relate more directly on a feeling basis with other members of the group; he will come to understand himself and his relationships to others more accurately; and he will subsequently relate more effectively to others. (Rogers, 1967: 262)

Modification of Group Behavior

In the goals of the present investigation an attempt was made to modify group behavior to arrive at a more functional method of living together. As people come together in P-groups they would learn how they communicate, and perceive more clearly how others react to them in a real situation where the day-to-day routines have consequences. It was found that the structure imposed on the groups effected different consequences. The subjects for all groups were placed there by the leadership team to eliminate cliques, provide task oriented strength, and provide an opportunity for every person to build new relationships without the aid of a close friend for support. This strategy did build strong task oriented groups who were capable in the most part of high levels of efficiency under stress. In addition the placing of persons of high skill strength in various areas in each group enhanced the teaching of skills, and provided added independence for each group to be self contained (Fiedler, 1967a).

The achievement of success in enabling people to function better together depended on the P-group constellation and the effort by the leadership team to facilitate interpersonal interaction. The success of this process depended to a large degree on the goals with which many people came into the course. Groups who accepted people as interesting and of worth, and who saw this as an opportunity to grow through conflict and understanding developed close relationships (AI$_{B}^{1}$. 2, 3, p. 236). Individuals who were unwilling to accept others and struggle through the problem of functioning as a group became in some cases highly efficient but would not risk to get to know others in their group. Lott and Lott (1965: 259) found that a person will be more attracted to membership in a group the more he likes its members; they defined cohesiveness as "that group property which is inferred from the number and strength of mutual positive attitudes" among the members of a group.

It was found that as the external challenge for a P-group was increased and if the P-group could face this challenge alone that the Ss became more dependent upon each other during the expedition (AI$_{B}^{1}$. 9, p. 237). However this again was dependent on whether the individuals were willing to relate to each other or operate primarily as a task oriented unit. In further experimentation it is recommended that more opportunities be used to send individual primary groups on field missions away from the main party to reinforce the feeling of group identity.

Group Structure

The structure imposed and the sex ratio are two factors that have a profound effect on the objectives of group life. It is recommended that a more successful arrangement for structuring groups is to establish a compromise between the subjects and the leadership team. The Ss make a sociometric choice of 7 people they would like to camp with and the leadership team balance these choices off with the skill oriented people and socio-emotional people if you have knowledge of these qualities beforehand ($\text{AII}_{\text{B. 6, 7,}}$ p. 244). The inclusion of males and females in the same primary group produces an excellent opportunity for young people to learn to understand each other without getting too emotionally involved ($\text{AII}_{\text{B. 3, 4,}}$ p. 243). This process was possible in the investigator's research due to the age of the subjects and the element of trust between the leadership team and the Ss. To attempt this pattern with Junior High students possibly would only compound the problems of supervision in the school camping program. The consequences of placing females and males in the same P-group was an increase in conflict between males who were over chauvinistic and females who wanted to learn all the skills of the outdoors. This conflict when in the open provided a new dimension in male/female understanding that was useful in personal development.

Self Evaluation and Objective Public Evaluation

Whether the P-group contained the referent other for the Ss or not it is clear that this group evaluates the members of its group in a like manner to the way the S evaluates himself. Therefore even if the group

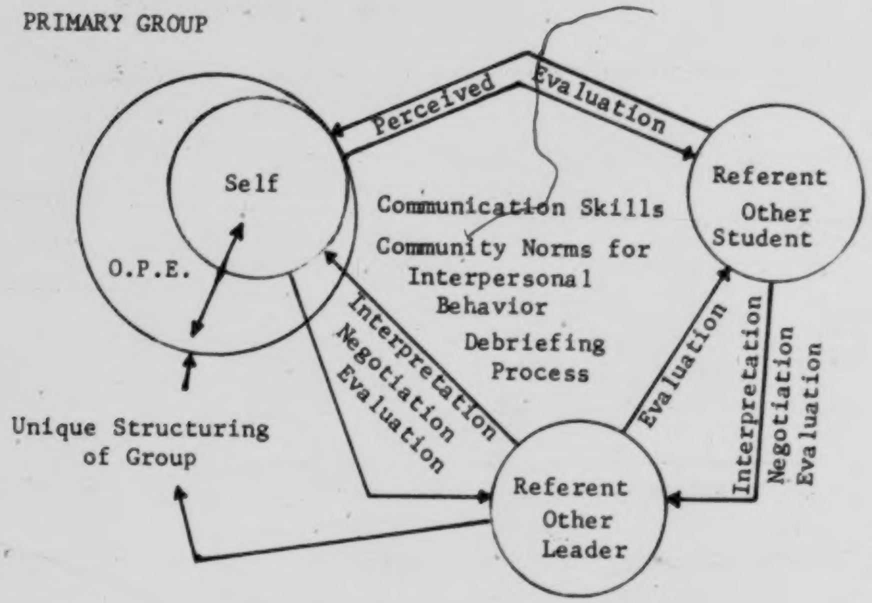

PRIMARY GROUP
Self
O.P.E.
Perceived Evaluation
Referent Other Student
Communication Skills
Community Norms for Interpersonal Behavior
Debriefing Process
Interpretation
Negotiation
Evaluation
Evaluation
Interpretation
Negotiation
Evaluation
Unique Structuring of Group
Referent Other Leader

Figure IV. Group Function in Outdoor Experience. Evaluation by OPE, in Primary Group as well as continued perception of assessment from leaders and student referent others.

is not as Siegal and Siegal (1953) found in their research, that the influence of the group is dependent upon whether it is the referent group for the individual or not, the subject in this study evaluates himself as he sees the OPE as well as others evaluating him (AIII$_{A.}$ 1, 2, p. 249). In Figure IV the interaction between Ss, RO student and RO Leader and group are visually presented. The world for the novice outdoorsman is initially defined by those relationships at home base before one travels to the outdoor setting. At this stage whether the subjects are deeply interested or not in the group, it is still used as a reference in the self evaluation process. It would be ideal if everyone found in its own P-group RO's that it could admire and follow.

However this is not the case in most groups and even if the maximum in inclusion and intimacy may not be achieved a positive learning milieu is still present. The investigation has shown that even in groups where there was little cohesion or risk taking to be intimate, an educational experience in learning to cope with difficult people was a worthwhile experience (AI$_B$1$_{.4}$, p. 237).

Rabban (1973) refers to this point in his recommendation that he sees camping groups with therapeutic capacities.

> Individuals can benefit from dealing with group members with problems even when they can make life together difficult and trying . . . Working through those problems enhances the quality of human-empathy-potential in children and also enriches the quality of group life. (1973: 8)

Group Relations Skills

It was found that in those P-groups where human relations skills were not only taught, but put into practice in the debriefing process that the Ss gained a greater insight into how they as people communicated with others. Conversely when groups were left on their own the individuals came away from the experience frustrated in that they knew something was wrong in the group but were not able to at least attempt a resolution of the conflict. The Ss preferred to know "where they were at" even if they could not resolve their differences than to feel negative vibrations in the group and not know what they were about (AI$_B$1$_{.5}$, p. 237). Weschler, Massarik and Tannenbaum (1962) feel that the constant push of a highly competitive social and vocational environment in our present society has led to extreme rigidity of the self structure in many people and to an unnecessary degree of perceptual distortion, device and selectivity. These authors suggest that even though we wish to obtain a clear and honest picture of ourselves, including weaknesses and faults, we are led by the "culture game" to maintain the appropriate front.

> The basic assumption is that if we are to appear normal, we must be careful to permit no outward signs of doubt about our state of psychological well-being. In the extreme we wind up as caricatures of hail-fellows-well-met. If we have doubts about our own inadequacy it is better to swallow them. We are cautious not to give too much of ourselves; to do so might let signs of discomfort and self doubt slip into general view. (1962: 40)

The outdoor group in the wilderness provides the media where steps can be taken to be authentic about oneself. One leaves behind status, position, certain defined roles, and returns to a more primitive level of society. In this setting one is rated by a new set of norms, expectations, and skills. It is proposed that with skilled leadership individuals can and will start to risk about themselves as people if the members of the group reveal they are also willing to risk (Schultz, 1961). The level to which an individual feels himself secure, and the level to which he/she perceives the group really caring will be the degree to which persons will be open about feelings and conflicts in a primary group. Through attempting various approaches in the outdoor setting it was found that by structuring a more open community norm the P-groups were willing to risk more in their own setting. That is, early in the treatment (AII_{B}. 8, p. 244) the whole community shares how they felt about some unique, or stressful experience that occurred during the day. While sitting in a close circle around the fire everyone is given an opportunity to speak. This sharing provides a total group feeling of participating in a common venture but also sets the stage for the members of the P-groups to interact more freely about their feelings. Close to this experience the leaders should visit the P-groups to help facilitate the process at a more intimate level of communication. There is a tendency for Ss to become too negative about small things and attempt to regress into analysis of why their peers are doing things rather than staying with the present and the response to what is occurring now. An exercise that has been used effectively to leave the debriefing sessions on a positive note is to have each member commit himself to saying the thing he appreciates the most about the others in the group. The response that occurs is often a good gauge of where people are at in the group. The extent to which this process will succeed is contingent upon, like the other aspects of the experience, the readiness of the Ss, the competence of the leaders, the impact of the curriculum and the environment.

C. THE NATURAL ENVIRONMENT

Evaluation of Man by Nature

The construction and development of a curricular model for the teaching of outdoor education by objectives is contingent upon that milieu about which we have little empirical research. The great majority of information about the power, rhythms and nuances of nature is locked in the minds and lives of the old gold prospector friend, Jake Doerkson of the North Saskatchewan river, along with other countless sea, prairie and mountain people who have lived and died close to nature. Writers such as Joseph Conrad, Ernest Hemingway, Farley Mowat, poets like Robert Frost, Carl Sandburg, the descriptive writings of John Muir, Franklin Russell and Sigrid Olson, and the philosophical writings of Aldo Leopold and David Thoreau to mention only a few, have dealt with the interaction of man in consort with others in the natural environment. Therefore, to look for validation for the impact of nature on individuals and small groups one has to refer readers to this body of literature to verify the present research and its relation to the treatment effect. The strategies here recommended, have been utilized and have produced the overall outdoorsman self identity growth verified by both quantitative and qualitative data (AI$_{A. 1, 2,}$ p. 234). It is understood that some of the change could have occurred via T-group or encounter group sessions, devoid of the stimulus of the natural environment. Yet the overall holistic effect related to outdoorsman self identity could only have happened in the natural wilderness setting. The purpose then is to elaborate how the general and unique effects of the outdoor environment can be used to elicit a change in the Ss outdoor self identity. The overall results of the investigation state categorically that there is a change through the overall effect of the experience and that there was a significant change in the Sensory Awareness Outdoorsman Factor for Cases A, E, B, while Case D scored high on both pre and post tests pointing out that they too had already experienced and internalized the Factor through previous experiences in the outdoors. The qualitative data supports this claim and as such we need to decipher to some degree what parameters within the experience affected the Ss the most profoundly.

Sensitization to the Environment

The Ss are usually affected first by the size, the expanse of the prairie flatlands, or Alberta foothills, or high mountains. This grandeur appears to make the S feel more insignificant, not in control, a speck in the universe (AI$_{B}$1$_{. 10, 12,}$ p. 237). They at the same time refer to beauty, since sight predominates our activities in the technological world this sense is used most effectively at first. As the S gets into the experience his other senses are brought into play. The sense of hearing, smell, and feeling. The role of the leadership team in the short time available for treatment is to help accentuate all the responses of the senses (AII$_{C. 1,}$ p. 245). The nature of a wilderness expedition immediately gets one in contact with his body, his heart, lungs, muscles which are put under stress through day to day travel and the challenge of subsistence maintenance. The approach used by Van Matre (1972) has been applied successfully by Leader (6) to heighten awareness of both the large and minute aspects of nature. These exercises, games, and skills have enhanced the use of all the senses (AII$_{\text{C. 1, 4,}}$ p. 245) in not only perceiving nature, but relating what is experienced to the broader aspect of ecological relationships. In the planning it is important that the environment chosen will provide for a unique learning experience (AI$_{\text{B}}^{1}$. 14, 16, p. 237). Persons familiar with the mountains should be exposed to the rolling foothills and unique river valleys of the plains in order to provide a comparison in terms of flora, fauna and topography (AII$_{\text{C. 2,}}$ p. 245).

Nature's Challenge and Man's Self Needs

The second most referred to aspect in nature is the level of the risk in the challenge of testing oneself in the swift rivers, on rocky mountain peaks and in uncharted forests of the land. When asked, "Why do you climb?" mountain climbers usually reply, "The Peak was there". They cannot put into words why they must conquer more and more difficult peaks. The desire of man to seek stress is the question pursued by Klausner (1968) where he asks "Does man really seek stress or is he conditioned to it? The Dionysions would say one is not a man who does not seek the lust of life, the Apollian would of course desire the converse. Man appears to endeavour to find himself through the challenge of nature. Not only does he seek to challenge the forces of nature, he devises ways to make this challenge greater by limiting his technological equipment to the minimum as it were to make the struggle greater

(AI_B1. 15, p. 238). In response to this innate characteristic within western man the Outward Bound Organization (Amatt: 1967) developed programs described by such terms as CHALLENGE, ADVENTURE, INITIATIVE, founded on the principle that through struggle man learns ethical virtues that will enable him to more effectively cope with life. The founders of the St. John School for Boys (1970) run a school curricula based on the same approach, that by overcoming and by perseverance, young people will learn the values that the Canadian pioneers and voyageurs learned long ago, that made our country great. The caption which heads their literature has this statement:

> . . . students must once more know the rigors and the poetry of life outdoors with which their forefathers were so familiar. They must know the still northern lakes on summer nights, the bite of the prairie blizzard, the brash setting of the prairie sun. They must light their fires in the smokey fall evenings and feel the spring rain upon their faces. Finally they must begin the long journey by which God leads us home . . . (St. Johns, 1967: 5)

Strategies to Maximize Nature's Impact

Unless outdoor experiences are participated in over a period of weeks the Ss can often only get one aspect of the wilderness experience. It is the conclusion of this investigation that Ss need to undergo a variety of weather encounters. The learning to accommodate and function within the framework of snow, rain, wind and sunshine makes one more conscious of contrasts and the variety of the natural environment (AI_B1. 16, p. 238). It is also a dimension of the challenge. If the challenge is not equal to the potential of the group they will not receive the same training effect. The subjects who come into a course expecting a white water canoeing experience and only get a general fast water river experience will be disappointed. Therefore to achieve the objectives of the course the expectations of the Ss must be met (AII_C. 5, 6, p. 245). In certain circumstances the curriculum elements can be modified to simulate this expected challenge, by reducing the equipment used, by limiting food, clothing, or introducing a sport like orienteering (AII$_{D. 5}$, p. 246). In Alberta in the spring and fall and even in the summer a wilderness traveller can expect any kind of weather. The leadership team always need contingency plans to take advantage of whatever types of weather that occur to implement the treatment effect. When the torrential rains come, if the plan is only to fold up the tents and go home, the treatment effect is lost in that one act. Hence the wilderness environment is the unpredictable teacher of the model providing unique learning for each expedition that in all likelihood will not be repeated again in the same way or time. If the leadership is prepared then the unique treatment may be the crucial factor that brings about a radical change in the OSI and particularly in the Sensory Awareness Factor.

D. CURRICULUM ELEMENTS

Introduction of Program Development Model

The curriculum elements are defined as those experiences programmed into the students time line that facilitate the acquisition of sensory and cognitive knowledge. They are the content and strategies of the leadership team combined with the independent environmental conditions and the interdependent actions of the Ss in their P-groups. This effect is shown on Figure V (p. 282) where the environment is depicted as completely surrounding and controlling the subjects and outdoor community. The curriculum elements dictated by the leadership team are always planned in conjunction with the environment to maximize the reinforcement of the learning effect (Dollard and Miller, 1950; Ferster and Skinner, 1957). In addition they are also modified to capitalize on the unique conditions that occur in the natural environment caused by weather and terrain. Yet within this learning milieu the interaction of groups (OPE), referent others, both peer leaders and instructors, continues to take place.

The pre planning of any educational experience in the outdoor situation needs to consider all the contingent parts of the model. This becomes a difficult process for most teachers and instructors who are used to a man controlled setting where one has to create his own points of interest through models, films, pictures, and sundry other techniques. In the outdoor setting all this preparation is omitted by flexibly planning the curriculum to take in the stimulus of the rural setting. This then demands a different type of pre planning organization.

Planning by Objectives

It has been emphasized before in the investigation how crucial good organization is to the fulfillment of the objectives for the course, every element to be infused into the course needs to be weighed and considered in the light of the objectives. If it does not enhance the objectives it should be discarded or changed.

The initial procedure is to define the objectives and then include all the possible experiences that can be carried out in the outdoor environment. Subsequent to this these experiences are tailored to the skills and strengths of the leadership team. For example, rock climbing is a highly desired activity, however since the particular leadership team has not the equipment or the expertise to conduct major rock climbing expeditions as a treatment tool, it must be discarded in favour of something else. The question then becomes, what element will infuse some aspect of perceived risk in the subject's mind? Possibly the inclusion of white water canoeing would create the same effect for a

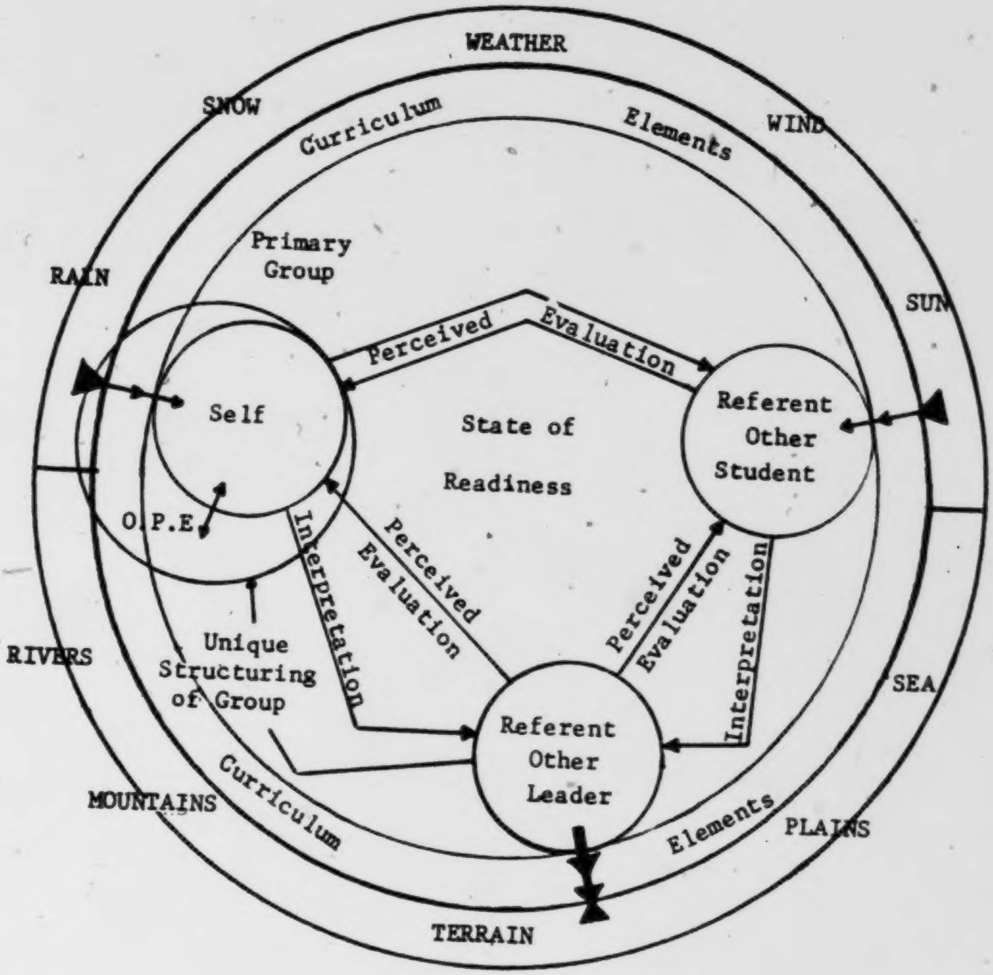

WEATHER
SNOW
WIND
SUN
SEA
PLAINS
TERRAIN
MOUNTAINS
RIVERS
RAIN
Curriculum
Elements
Primary
Group
Self
O.P.E.
Unique
Structuring
of Group
Perceived
Evaluation
State of
Readiness
Referent
Other
Student
Interpretation
Referent
Other
Leader
Curriculum
Elements

Figure V. The Outdoor Group and Leadership Development Model with Environment and Curriculum Elements Included.

large number of the Ss. The choice of the curriculum elements is then balanced with the concern for safety of the Ss by focusing on prevention through the training, conditioning of the Ss to meet the stress. This then means that the leadership team must establish some priorities as to what material will be given immediately to prepare the Ss for the challenge of the experience.

The critical aspect is to provide enough preparation to guarantee a level of success in the struggle without eliminating the challenge for the Ss. If the test is to be considered of value by the Ss it of necessity must be perceived as significant to the outdoor community (AII$_{\text{C. 5, 6,}}$ p.245). If the risk ceases to be a challenge, or on the other hand the Ss are not prepared enough to succeed, in at least some of the situations encountered, the Ss will initiate strategies to devalue the activity (Scott, 1973) or the leader or in some instances their own outdoor self identity.

Since Case A had little success at the sport of orienteering the leadership team programmed extra time for map and compass early in the course for subsequent Cases. This not only enabled the P-groups to negotiate mountain terrain more effectively early in the course, but helped them to gain a higher success level in the sport, thus enhancing this part of their outdoorsman self image.

Strategic Use of the Environment

The objective at all times is to analyze the environment and plan to utilize the program element that is on the list in a setting where it has meaning (AI$_{B}$2. 4, 5, p. 239). An example of inappropriate use of the environment was demonstrated at an outdoor survival course where the Ss were to have an endurance run. The leader unwittingly chose 7½ miles of gravel highway for the run when there were hundreds of miles of forested hills and mountains in every direction. The point that should be made is that to be a meaningful experience the run should have been through the mountains, along game trails, or old logging roads. If the experience that is being programmed in the wilderness can be done every day in the city or town why is it being done in the outdoor setting? This flexibility often means that due to waiting for the appropriate teaching moment the material considered crucial is not included. The decision as to the trade-off is always difficult for the leadership team, e.g. if the weather conditions provided a survival experience battling a raging blizzard and three feet of snow, when the plan was to include an interesting climb to the top of a mountain to investigate some caves, then the most important curriculum element is how to cope with blizzard conditions, while the caving experience can wait for another group or another trip. On the other hand, there may be material that must be dealt with whether the situation or Ss are completely ready to learn it. This should be programmed to make sure it does not interfere with more crucial elements that are tied to a particular environment or weather condition later in the trip.

Expedition Structure

It has been emphasized that for effective learning and self actualization to take place there must be movement from one level of challenge to a higher level (AII$_{C. 5, 6,}$ p. 245). This is much the same as first climbing hills, then mountain ridges and finally mountain peaks. To achieve the most lasting learning effect the climax experience for the adventure should be last on the schedule. That is, if a course was to have two expeditions the first should be the least demanding of the two or the second will be an anti-climax (Case B). This same planning should be initiated if possible within the expedition units themselves by having the most difficult challenges close to the latter part of the trip. This strategy depends to a certain degree on the goals of the expedition. If one is teaching white water canoeing the ideal situation is to progress from slow water to fast water, then to small rapids and finally climaxed by the most dangerous and largest rapids. If on the other hand, the goal is to teach perseverance and observation of man's impact on the river, then the experience of the river as it really is, with fast water first, slowly changing into meanders and flat water as one travels downstream, is important to the learning effect. To prove to oneself you could travel that far, while at the same time experiencing the changing tempo and rhythm of the river as it moves through different land forms, becomes the ultimate challenge (AII$_{C.\ 3,}$ p. 245). When planning expedition structure, a general plan for each day is necessary with large blocks of time for infusion of the appropriate learning experiences. Without a time plan the basic material to be taught on an expedition may be missed. In addition Ss appreciate a time structure by which they can take responsibility for their actions in meeting deadlines for P-group and total group activities.

Ecological Learning by Living

The trend that is presently being used by the investigator and his partner, Leader (6), is to analyze the ecological principles, and then apply them to the outdoor community style of living in the wilderness environment (AII$_{C.\ 4,}$ p. 245). The question of how do men live as a community in the natural world is at the base of this approach. Does man subscribe to sectionalism and utilize one section of the environment to preserve another section as defined by the term Wilderness Camping (Manning, 1972)? Does man become involved in utilizing the resources of the environment in his camping style? These questions, since they involve ecological principles are basic to the present approach of the program treatment effect. Whatever the stance to be learned and understood there are relationships to be effectively pointed out. For example, what occurs when twenty people converge on a small mountain stream to drink? The first one on the trail picks the closest spot with clean water, the next goes down or up stream, soon there are people in a string up and down the creek, wetting their hair, washing their face, and trying minutes after they first arrived to get clean water to drink. This scenario becomes an excellent opportunity to relate what occurs in most of the major cities and towns across Canada. The discussion can then focus on how to approach a small mountain stream, that everyone can drink, wash their face and still have clean water. How must this solution differ from a large stream of water. This type of approach to the teaching of ecological principles means a slower pace in the wilderness and a constant relating of sights, sounds, smells and occurrences that enhance awareness and understanding (AII$_{C}$. 4, p. 245).

The assigning of Ss to become resource persons on particular plants, birds, animals, trees, flowers, etc., before the expedition, enables the community to have more descriptive knowledge in all the P-groups. These resource persons then not only have an opportunity to enhance the learning of the subjects but start to see themselves as outdoorsmen which in turn helps to strengthen their feelings of self worth (AI$_{B}$2. 3, p. 239).

Another aspect of learning about animals, fauna and terrain in the mountains takes place in that most travel is done via animal trails along the ridges and through the valleys. This type of wilderness travel helps to focus Ss minds on the habits and characteristics of animal life in the wilds. The human travelling through wilderness areas then as another animal, is exposed to tracks, droppings, and the occasional sighting of a wild animal. This exposure if related by the leader enables the Ss to start looking early for game animals and plants on their own.

The program, especially for Cases D and E, involved environmental sensitization learning modules that were integrated primarily on the backpacking expeditions. The results as indicated helped to speed the awareness by the Ss to the use of all the senses ($\text{AII}_{\text{C. 1,}}$ p. 245). This approach in a long range outdoor experience might not be needed as much as in the short range experiences afforded by most institutions. The cumulative historical data (p. 70) reveals that a high percentage of persons taking Outdoor Education experiences have never really lived close to nature and therefore require a process whereby they can come in contact more quickly with the complexities of nature. What grandfather learned through years of living as a pioneer close to nature, the modern student is expected to absorb through short intensive exposures.

To reinforce concern about pollution in the wilderness all groups carry out cans and bottles found in the mountains. The precept is that one can carry out the same weight as was carried into the situation. This active involvement does not guarantee that the S will do it on his own, however he at least has seen a principle in action.

Pre-Expedition Orientation

The orientation period for a course should include those elements considered essential for the healthy survival of the outdoor community isolated from civilization. The experience of the Case studies and many subsequent expeditions have made this leadership team more rigid in enforcing pre trip requirements in clothing and equipment. This requires a complete checking of these items in each group well before the departure date. Essential elements during this time include body maintenance information, menu planning, food purchase and packaging, preventive safety measures, group communication skills and a thorough session on the ethical system that the community will function under during the expedition ($\text{AII}_{\text{B. 9,}}$ p. 244).

Perceived Risk and Real Risk

There has been an allusion to the level of risk and the element of challenge required to satisfy this drive in youth and to a lesser degree adults. The risk factor is the most crucial aspect of expedition success or failure. The balance between perceived risk and real risk to the Ss and the interpretation of the consequences for failure are at the base of leadership in the outdoor setting. All curriculum elements included in an outdoor program must revolve around this central point for out of this assessment come real life and death decisions in the outdoor scene. It is with this sober realization that outdoorsmen in planning stress activities for growth through the program treatment model must include aside from proper conditioning of the body for the stress, the emphasis on the proper clothing and equipment for the test, first aid knowledge and an adequate back up plan for any and all emergencies--a thorough assessment of the real risk. The questions that must be asked are:

1. What is the real risk to life and injury in this activity?
2. Do I need this level of risk to achieve the goals of providing a healthy outlet for the subjects' drive for excitement and resulting growth through challenge?
3. Are the Ss at a physical, emotional and mental level ready for the level of risk?
4. Has the anticipation of the risk situation been adequately capitalized on for skill learning, or will they come away knowing they had a high experience but learned little about nature or outdoor skills?
5. Are we as leaders experienced enough to assess the risk and if our assessment is in error, cover the emergency through our joint knowledge and preparation?

6. Aside from the moral and ethical obligations regarding the safety and welfare of the subjects, what legal liability are we as a leadership team responsible for in the situation?

Every leadership team needs to weigh these questions carefully before embarking on an outdoor expedition of any consequence. The implications are such that a leadership may decide to modify the aspirations of their expedition, or include more highly skilled personnel needed to cope with the real risk factor. On the other hand, the decision may be made due to the level of competence of the subjects to increase the challenge in order to meet the expectations and objectives of the course.

A number of concrete steps are basic to enhance the emergency prevention direction of each expedition.

Health certificates are required of all subjects entering a course, plus a communication of particular chronic or medication conditions to the leaders. If necessary,information on medication for diabetics or other ailments is disclosed to the P-group. Those persons with first aid training are identified, yet not too much confidence is placed in them until they are seen in action; paper qualifications do not necessarily mean action on the trail. The Ss are informed on what is essential for a mountain first aid kit, first aid procedures, when to evacuate the victim and in what manner should this evacuation plan take to preserve the health of the victim. In a number of courses a simulation accident has been set up and the Ss have learned how to respond to this real situation. The subjects in two situations did not know it was a simulation and their response was efficient and professional.

Following the experience a complete debriefing session was held to acquaint and share how people felt and perceived themselves functioning in the emergency. This also gives a time to clear in the Ss minds that their response for any simulation should be the same as for a real case. We are aware that there is the fear that surprise simulations may dull the edge of a response by Ss, and for this reason, it is the recommendation that only one simulation of this nature be done on an expedition and it be timed to be near the end of the expedition. Since simulation teaching is as close to the real occurrence outside of a real accident, this technique produces rapid learning and a time for assessment of how a person will react in the real thing. Again the situation, timing and maturity of the group will determine how many simulation situations should be used and whether groups are warned ahead of time as to whether it is real or not--again there is a risk involved. Before the expedition leaves all Ss should be acquainted with the territory to be travelled and the type of flexible time control plan that will be followed during the trip. This information plus a map should be left with key people who will provide back up help in case of an emergency. The procedure of the author is to acquaint himself with residents in an area who really know the terrain. These people should usually be local informal outdoorsmen, or professionals such as the Game Officer, Forest or Park Warden, or the R.C.M.P. These latter people are concerned for the welfare of people and the environment and as such should be informed as to the program, what its objectives are and the adequacy of your preparation. Their advice on weather, conditions of mountain passes, rivers, and the location of dangerous areas will help guarantee the safety of the expedition. More precise information about specific localities is often obtained from the person living in, or who regularly travels the area as a trapper, or hunter.

In concluding this area on risk taking, the tendency today is to venture into the wilderness with too little experience, poor equipment and inadequate mountain or first aid experience and back up. This aspect cannot be over emphasized, yet at the same time our safety concerns cannot be so restrictive that we destroy the challenge of the experience. This point is admirably clarified in Aldo Leopold's (1966) short story, Escudilla, where a mountain is made safe for cows to range when a government hunter kills the last of the great Grizzly bears. The unfortunate pay-off was that in that act, the excitement, mystery and magic of the mountain died--Escudilla became just another mountain.

Risk Weighing in Program Execution

Some examples of risk decision making are included to give the reader an idea of this principle in action. Suppose it is decided that to increase P-group unity and to force trip leader evolvement P-groups with a minimum of map and compass orientation should be instructed to find their own way to a destination. What then is the risk to the survival of the P-group, and the whole community at large? If the weather forecast is reasonable, and members are free from illness, or physical ailments and the boundaries of travel defined, then the decision may be to instruct groups to consult their maps and mark the meeting place, draw up a time control plan and embark on their adventure. To cover for those groups who are possibly not completely capable for the challenge, the leadership team splits into two parties, one to proceed to the destination, the other to act as a sweeper to trail groups that make decisions completely in reverse to the direction to be taken. If on the other hand, the weather was threatening, visibility poor, there were people suffering from physical ailments such as strained tendons or an injury to a limb necessitating others to carry their gear, then the community would not split to make sure no one was put on the critical list. It is true this type of judgment decision in the wilderness is not always correct, however the above guidelines on risk taking should help in applying these curricular elements.

Errors in Judgment and Leader Response

There will be errors in judgment by the leadership team in terms of infusing curriculum elements that do not turn out the way it was planned. It has been the author's experience that the errors in judgment quite often turn out to be highlight experiences in the eyes of the Ss. The key factor is how did the leadership team respond to the error? Did it cause a threatening disagreement among the leaders, thus creating an element of fear and crisis from both the difficult situation in the environment and the personal relations of the leadership team? An example that can be referred to was in Case B, where due to miscalculation on the distance to the campsite, the expedition was caught in the dark. Other possible campsites up river were too exposed, wet or unable to protect 28 people. Leader (1) knew that section as flat and calm to the campsite. As they moved through the dark the leaders berated themselves for getting into this situation knowing that at the same time it was better to camp in a known campsite with poles and wood available than risk a new one at that time. The campsite was reached, the Ss forced themselves into action with the strong helping the weak and the camps were quickly set up as the moon flooded the sky. It is predicted that, if Leaders (2) and (6) had started a heated discussion over the stupidity and danger of the affair, they would have created a situation of panic and fear among the Ss. As it was the highlight of that river trip for many was the paddle in the dark with the moon edging over the horizon (Case B: B. 3, p. 147). The crucial course of action with curriculum elements is then not whether they are always programmed correctly but how did the leadership team capitalize on the error and turn it to an advantage.

Expectancy-Motivation

The learning of skills, conditioning of the body, and team cohesiveness can be taught as a lead up to the wilderness experience, if the students can visualize the real situation and relate it to short term goals. This level of anticipation can be heightened by relating Ss to a visual presentation with pictures, slides or movies of previous expeditions. In addition, short term challenges will reinforce the necessity to learn certain material. The S who treats map and compass work in a careless manner will be more eager to learn if he cannot find his way around a mini course on home ground. The individual who claims he is in shape yet cannot run an easy 2 mile course, will soon realize that it is important to do some work in that direction. It is suggested that anticipatory learning will reduce in effectiveness in proportion to the number of days included before the expedition, particularly if the pre program is not of a high intensity nature.

Previous work by the investigator (Gibson, 1966) found that the stimulus of an expected outdoor trip promoted learning in the classroom for an extended period of time. With older students this long range motivation does not appear to have the same stimulus and as a result after comparing Cases A, D with Cases B, C, E and the accumulated observations of six other Spring and Fall courses the author prefers the concentrated 4 to 6 day structure over a longer, more spread out preparatory session. The former produces a complete concentration on the expedition without any side distractions. The latter program is hindered by a multitude of other social and academic activities that prevent intensive concentration on the material to be learned, or the people involved.

Teaching of Wilderness Skills

Opposing schools of thought exist in this area, the one school which points out the learning is best learned in terms of meaningful activity in the environment, and the other school that points out this approach is too risky and the orderly teaching of skills should take place before going into the environment. The direction one takes is dependent to a degree upon one's philosophy. The investigator prefers to give an introduction to the use of tools, tent erection, stove use, and map and compass prior to the expedition experience. This teaching is limited since a desire for perfection only results when the Ss are put to the real test of the outdoor living situation (AI$_B$2$_{.\ 1,}$ p. 239).

In the outdoor situation the policy is to leave groups on their own for the first day and night. At the same time the leadership team builds the type of camp that they would have the students emulate. The only interference by the leadership team relates to following the rules of safety and aesthetic environmental concern in terms of stoves, or fire. Usually it has been found Ss will start to ask questions and look for information on how to improve their outdoor living. At this point in time in the wilderness setting concentrated sessions are given on the use of tools, all aspects of fire lighting and uses, knots, map and compass, and principles of sanitation. For these sessions the subjects demonstrate their ability and when they have achieved the level necessary can move to another station (AI$_B$2$_{.\ 2,\ 4,}$ p. 239). Desirable projects involving the need for wilderness living skills are planned to provide a logical need for their practice in particular environments. The day-to-day living often provides enough incentive to practise skills in order to live comfortably on the land without damage, aesthetic or otherwise, to the environment.

It was found that the learning of skills is enhanced if Ss who have special abilities are utilized in the teaching of peers (AI$_{B}$2. 3, p. 239). This procedure only works effectively if the S has a greater knowledge than the majority of the Ss and can demonstrate his knowledge in action. In some instances help by the leadership team will often aid the S to give a good presentation which will benefit the students and enhance his own outdoorsman self identity.

Community Development

One area that is often neglected on wilderness expeditions is the concern for community esprit de corps, or a spirit the aboriginal Eskimos and Indians would call "we the people". This oneness of community does not occur without good planning prior to the expedition leaving the home base. The first consideration is whether the challenge of the expedition is such that all members of the community will be drawn together in a common venture. This objective is often achieved by having a common project, like the building of the community teepee by the members of Case B (B. 2, p. 146), or snow caves, a community sauna, or it may be provided by a chance occurrence in nature like in Case D when the subjects found a skidoo on a sandbar in the middle of the river. The subjects and leaders rafted the canoes together, loaded the skidoo on cross poles and paddled the load down to St. John's Boys School, where it could be claimed by the owner. In most outdoor programs this type of event is built into the stress feature of the expedition: the climbing of the mountain peak, the travel through virgin wilderness, or the shooting of dangerous rapids.

One feature that is included on all Spring canoe trips as a safety feature and an acclimatization event is to stage a dumping session with everyone sequentially rolling the canoe, and then attempting to rescue themselves in the river. This process has an added feature in that it becomes a total community event.

Other important features of community building aside from camp debriefing, are informal and formal campfire nights involving singing, story telling, skits and a variety of games. Individuals who are talented can be encouraged to take responsibility with others for these activities through pre organization. However, the P-group is the key to social program responsibility, if involvement is expected from all Ss.

Since the nature of the institution in which the investigator works supports the inclusion of spiritual values in all of the college activities, this factor became a force for community unity in Cases B, C, D, E and to a lesser extent in Case A. Yet even in this Case a nucleus of the students presented a relatively strong religious profile. The important point that is presented here is that whatever the emphasis of the institution, the community seems to require the thoughts of great men, in poetry, and verse to inspire the Ss to be more human. Since the investigator approaches this from a religious stance, material appreciated the most by the majority of subjects, revolves around thoughts translating the beauty of creation into words, the relating of natural phenomena to life patterns, religious and otherwise, and the giving of biblical information on how to live the religious life with others (AI$_B$1. 12, 13, p. 238).

The structure for this occurs in the thought for the day every morning before the subjects move out either in the mountains or on the river. If the morning is cold the group moves on the trail until the first rest stop. The length and type of presentation is tailored to the situation, the location and the time element. On a Sunday there is usually a worship service planned by a group of students with the leader. This event is simple and takes on a variety of forms that fit the outdoor setting. In these settings the emphasis is to provide a spiritual framework in which people from all faiths and religious inclinations can feel comfortable. In the setting from which the investigation was conducted this approach is considered natural, and provides for a strongly integrative force, if kept at this level. As can be observed in Case C, when carried beyond this level to the level of indepth study on belief a polarization may take place unless all the subjects have bought into this type of indepth learning.

Termination of Expeditions

The curriculum elements at the end of the expedition are as important as those at the beginning. The conclusion should be quick and final without long drawn out assignments and delays to prevent an anti-climax from occurring (Case A). The procedure that was found the most effective was:

1. Always camp far enough away from civilization on the last night to make sure the experience is not contaminated by the noises of civilization. The Ss need to feel they still have some way to go before they reach the road head, or the pick up.
2. Have a group meal to finish up as much food as possible and to make sure those who are running short on rations are fed.
3. Finish the evening by sharing highlights about the course, final debriefing of the whole group. This is usually followed by a time of singing songs that have been popular, then a few thoughts

by the leadership team on the significance of the experience and what it can mean to the Ss future.

4. The following day the pick-up occurs, the equipment is put away and a fun banquet is held followed by a party.
5. The next day a final subjective examination is written on the whole experience and the group then breaks up and leaves for home.

These procedures have to be modified if the expeditions are part of an ongoing course at university or college. The basic elements should be kept and included if they fit the setting.

SUMMARY

This chapter has contained the conclusions and general principles gleaned from the Case studies, and a model for analyzing, understanding, constructing and evaluating Outdoor Education by objectives. After briefly reviewing self theory, the different aspects of the model, the leadership, the group, the environment, and the curriculum elements, these were again discussed with a view to coordinating their integration into the whole effect.

CHAPTER V

SUMMARY AND IMPLICATIONS

1. SUMMARY

The two central purposes of the study were: first to carry out a controlled investigation of a series of outdoor group experiences, varying in leadership roles and curricular emphasis and second, to synthesize a conceptual perspective from the findings of these Case studies and from existing self and group process literature which would be useful in analyzing, understanding, constructing and evaluating outdoor group experiences and curricula by objective.

In completing the first aspect of the investigation, self actualization and symbolic interactionist self theory were used as a theoretical base for the study, while using the descriptive and evaluative framework devised by Sherwood (1962) to develop an Outdoor Self Inventory. This process subsequently involved the techniques of item analysis, factor analysis, and the Alpha Scale verification, to produce four viable and reliable factors that encompassed core areas in the outdoorsman self structure.

These instruments were then applied to 96 subjects registered in five separate Case studies whose treatment was structured by the investigator. Each study had a separate unique program and treatment effect that resulted from the combined influence of the leadership team, the P-group structure and dynamics, the curriculum elements included in the course, and the differing impact of the environment. The findings from each Case were compared to a common control group and the results from each other Case. The data analyzed included the results from the outdoor self inventory, and descriptive material from the Ss diaries, private interviews and direct observations by the investigator as a participant observer.

The findings from the investigation are presented at two levels. First, there are some direct significant results from the effect of the program treatment:

1. That subjects given an outdoor wilderness experience that encompasses the utilization of dedicated leadership, group living skills, curriculum elements and the environment through objectives, will result in the actualization of one's outdoor self identity.
2. The factors in the outdoorsman self that received the greatest attention through experiential living will elicit the greatest change.
3. Of the four factors measured in the outdoors the greatest change occurred in the following order: Outdoor Sportsman > Skilled Outdoorsman > Sensory Awareness Outdoorsman > Outdoor Group Leader.
4. The Ss in a P-group after an outdoor experience evaluate themselves in the same or similar manner as those members of their P-group evaluate them.
5. In an outdoor experience referent others chosen by their peers align themselves closer to the importance rating of the leadership team than the subjects.

Second, the investigation resulted in the verification of a number of important principles that had a direct bearing on the development of the Outdoor Education Group Program Development Model. These principles had evolved through the application of a variety of structure and curricula to each Case study and the careful assessing of both the quantitative and qualitative results. A number of the principles had already been verified in other settings but had not been applied in the outdoor setting.

The cumulative postulates of social psychology regarding group and leader development based on self theory was co-ordinated with the outdoor principles to formulate the theoretical base of the model. The contingent observations and processes used to bring about outdoorsman self actualization change and the subsequent implications, resulted in the planning by objectives approach for the Program Development Model.

The model and its application have been developed primarily from the assessment of Outdoor Wilderness Expeditions. It is suggested that in every outdoor situation where the subjects are living in close contact with the natural world it could be utilized according to the objectives of the institution to enhance learning and self actualization.

II. IMPLICATIONS FOR USE OF THE MODEL FOR GROUP AND LEADERSHIP DEVELOPMENT THROUGH OUTDOOR EDUCATION BY OBJECTIVES

The model as designed (Figure V) resulting from the cumulative research of the five Case studies and subsequently put into practice in a variety of outdoor courses since 1975 has shown that when applied will bring about enhanced self actualization of subjects and has opened new avenues or identification of specific areas of emphasis in the outdoor setting. Since it has been used successfully by the investigator in the outdoor wilderness setting for leadership development, as well as for the transmission of values regarding a new land ethic as well as an ethic for human survival via objectives, it now needs to be applied by others in the outdoor setting.

It is imperative that further research be applied to the following areas if we in the outdoor movement hope in any way to educate people in a wide and judicious use of our resources and the land for both the maintenance of life and leisure pursuits. The research emanating from this study is broad in scope, with each area providing a focus:

1. The Outdoor Inventory needs to be refined and applied to other test groups. Additional outdoor factors need to be identified, such as cognitive knowledge of the environment, group interaction, and aesthetic or religious development.
2. Research needs to continue on what group constellations tend to produce what type of results, in terms of participant growth as a person, and in terms of group analysis.
3. Further emphasis needs to be given to leadership development where the program treatment effect is focused on isolation of P-groups, to accomplish difficult tasks with a variety of techniques being implemented.
4. Groups interested in religious group dynamics could replicate certain aspects of Case C to ascertain what effects accrue and if the response for Case C was unique.
5. Application of the model to other Case studies, to verify or reject the basic principles proposed for its use need to be initiated.
6. Application of the model and its principles to a variety of outdoor groups and outdoor settings to determine the limits of its successful application need to be instituted.
7. Long range studies need to be initiated to ascertain whether the value change regarding the outdoors is permanent or of a transitory nature.

8. There is a need for comparative studies to ascertain the extent of sensory learning that takes place via wilderness and/or technological camping versus resource use camping.
9. Comparative studies need to be initiated to determine what period of time is optimal in order to elicit a high level of self actualization in the outdoor setting.
10. Continued research is required to facilitate ways and means of transmitting long range human ecological patterns of living that will guarantee the preservation and use of the environment.

BIBLIOGRAPHY

Achenbach, R., and E. Zigler. Social competence and self-image disparity in psychiatric and non-psychiatric patients, Journal of Abnormal and Social Psychology, 1963, 67, 197-205.

Adair, John. Training for Leadership. London: MacDonald, 1968.

Adams, Dennis. Group Dynamics: Implications for the Physical Educator. Unpublished Paper, Department of Physical Education, University of Alberta, 1971.

Adams, W. D. Survival Training: Its Effect on the Self Concept and Selected Personality Factors of Emotionally Disturbed Adolescents. Unpublished Doctoral Dissertation, Utah State University, 1969.

Adcock, D. J. Factor Analysis. Melbourne University Press, 1954.

Adler, A. The fundamental views of individual psychology, International Journal of Individual Psychology, 1935, 1, 5-8.

Aiken, E. G. Alternate forms of a sematic differential for measurement of changes in self description, Psychological Reports, 1965, 177-178.

Alexander, Alberta Andrea. The Effect of a Residential Camping Experience on the Self Concept of Boys from Low Income Families. Unpublished Doctoral Dissertation, Boston University, 1969.

Alfert, E. Two components of assumed similarity, Journal of Abnormal and Social Psychology, 1958, 56, 135-138.

Allport, G. W. Personality: A Psychological Interpretation. New York: Henry Holt, 1937.

Allport, G. W. Pattern and Growth in Personality. New York: Holt, Rinehart, and Winston, 1961.

Amatora, Mary. Comparisons in personality self evaluation, Journal of Social Psychology, 1955, 42, 315-321.

Amatt, John R. . . . to serve, to strive, and not to yield, Alberta Teachers Association, Sept. - Oct., 1969.

Anderson, Camilla M. The self-image: A theory of the dynamics of behaviour. In Don E. Hamachek (Ed.), The Self in Growth Teaching and Learning. Englewood-Cliffs: Prentice Hall, 1965.

Anderson, N. H. Scales and statistics: parametric and non-parametric. In E. F. Hecrman and L. A. Braskamp (Eds.), Readings in Statistics for Behavioral Sciences. New Jersey: Prentice Hall, 1970.

Applbaum, R. L., Karl Anatol, Ellis R. Hays, O. Owen Jenson, E. R. Porter, and J. E. Mandel. Fundamental Concepts in Human Communication. New York: Harper, Row, 1973.

Armstrong, Scott J., and Peer Soelberg. On the interpretation of factor analysis, Psychological Bulletin, 1968, 70: 5, 361-364.

Backman, C. W., and P. F. Secord. Resistance to change in the self concept as a function of perceived consensus among significant others, Sociometry, 1963, 26, 102-111.

Balma, M. J., J. C. Maloney, and C. H. Lawshe. The role of the foreman in modern industry. II. Foreman identification with management, workgroup productivity and employee attitude toward the foreman, Personnel Psychology, 1958a, 11, 367-378.

Bandura, A. Social learning through imitation. In M. R. Jones (Ed.), Nebraska Symposium on Motivation. Lincoln University: Nebraska Press, 1962, 211-269.

Bandura, A. Social learning theory of identification process. In D. A. Goslin (Ed.), Handbook of Socialization Theory and Research. Chicago: Rand McNally, 1969.

Bandura, A., and C. Aletha Huston. Identification as a process of incidental learning, Journal of Abnormal Social Psychology, 1961, 63, 311-318.

Bandura, A., and R. H. Walters. Social Learning and Personality Development. New York: Holt, 1963.

Becker, J. The influence of school camping on the self concepts and social relationships of sixth grade school children, Journal of Educational Psychology, 1960, 51, 352-356.

Beker, Jerome. The Relationship Between School Camping Social Climate and Change in Children's Self Concepts and Patterns of Social Relationships. Unpublished Doctoral Dissertation, Columbia State Teachers College, 1959.

Bem, D. An experimental analysis of self-persuasion, Journal of Experimental Social Psychology, 1965, 1, 199-218.

Bennis, W. G., and H. A. Shepard. A theory of group development, Human Relations, 1956, 4, 415-437.

Bennis, W. G., Kenneth Fenne, and Robert Chun. The Planning of Change. New York: Holt, Rinehart and Winston, 1961.

Berube, Pierre. Effect of Survival Camping on Self Concept. Unpublished Master of Education Thesis in Counselling, Psychology Department of Educational Psychology, University of Alberta, 1976.

Bieri, J., and R. Lobeck. Self-concept differences in relation to identification, religion and social class, Journal of Abnormal and Social Psychology, 1961, 62, 74-98.

Blalock, H. M. Social Statistics. New York: McGraw-Hill, 1960.

Borislow, Bernard. Self evaluation and academic achievement, Journal of Counselling Psychology, 1962, 9, 246-254.

Brim, O. G. Jr., and S. Wheeler. Socialization After Childhood: Two Essays. New York: John Wiley, 1960, 102.

Brodbeck, M. Methological individualism: definition and redirection, Philosophy of Science, 1958, 25, 1-22.

Brook, R. C. Self Concept Changes as a Function of Participation in Sensitivity Training as Measured by the Tennessee Self Concept Scale. Unpublished Doctoral Dissertation, Michigan State University, 1968.

Bryan, J. H., and A. T. Test. Models and helping: naturalistic studies in aiding behavior, Journal of Personality and Social Psychology, 1967, 6, 400-407.

Bugental, J. F. T. The Search for Authenticity. New York: Holt, Rinehart and Winston, 1965.

Bugental, J. F. T. Challenges of Humanistic Psychology. New York: McGraw-Hill, 1967.

Bugental, J. F. T., and S. L. Zelan. Investigations into self-concept. I. The W-A-Y technique, Journal of Personality, 1950, 18, 483-498.

Burke, R. L., and W. G. Bennis. Changes in perceptions of self and others during human relations training, Human Relations, 1961, 14, 165-182.

Butler, J. M., and G. V. Haigh. Changes in relation between self-concepts and ideal concepts consequent upon client-centered counselling. In C. R. Rogers and Rosalind F. Dymond (Eds.), Psychotherapy and Personality Change. Chicago: University of Chicago Press, 1954, 55-75.

Butler, Nancy, and Ruth Haslam. Unpublished Research into Self-concept, Community Mental Health Center, Provo, Utah, 1970.

Campbell, Donald T., and J. C. Stanley. Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally, 1966.

Carkhuff, R. R., and Bernard G. Berenson. Beyond Counselling and Therapy. New York: Holt, Rinehart and Winston, 1967.

Carter, L. F. Recording and evaluating the performance of individuals as members of small groups, Personnel Psychology, 1954, 7, 477-484.

Cattell, Raymond Bernard. Factor Analysis: An Introduction and Manual for Psychologist and Social Scientist. New York: Harper Brothers, 1952.

Clifford, Edward, and Miriam Clifford. Self-concepts before and after survival training, British Journal of Social and Clinical Psychology, 1967, 6, 241-248.

Coates, C. H., and R. J. Pellegrini. Executives and supervisors: contrasting self-conceptions and conceptions of each other, American Sociological Review, 1957, 22, 217-220.

Cohen, A. R. Some implications for self-esteem for social influence. In C. I. Hoveland and I. J. Janis (Eds.), Personality and Persuasion. New Haven: Yale University Press, 1959, 102-120.

Cohen, L. D. Level of aspiration behaviour and feelings of adequacy and self-acceptance, Journal of Abnormal Social Psychology, 1954, 49, 84-86.

Coleman, J. Personality Dynamics and Effective Behavior. New York: Scott Foresman, 1960.

Coolbaugh, J. A. Research shows campers improve self concept, Camping Magazine, 1972, 44-48.

Combs, Arthur W., and Donald Snygg. Individual Behaviour. New York: Harper Brothers, 1949.

Combs, Arthur W., and W. D. Soper. The self, its derivative terms and research, Journal Individual Psychology, 1957, 13, 134-145.

Cooley, C. H. Human Nature and the Social Order. Charles Scribner's, 1902.

Cooley, W. W., and H. B. Reed. The measurement of science interests: an operational and multi-dimensional approach, Science Education, 1961, 45, 320-326.

Coopersmith, S. A. A method for determining types of self-esteem, Journal of Abnormal Social Psychology, 1959, 59, 87-94.

Coopersmith, S. The Antecedents of Self-Esteem. San Francisco: W. H. Freeman, 1967.

Cowen, Douglas S. Teacher Attitude and Involvement in Outdoor Education. Unpublished Master of Arts Thesis, University of Alberta, 1972.

Cowen, E. L. An investigation of the relationship between two measures of self-regarding attitudes, Journal Clinical Psychology, 1956, 12, 156-160.

Cragg, Nadine. An Evaluation of the Year Around School Camp at Long Beach, California. Unpublished Doctoral Dissertation, University of Michigan, 1952.

Cronback, L. J., and Goldine Gleser. Assessing similarity between profiles, Psychological Bulletins, 1953, 50, 456-473.

Cronback, L. J., and Goldine Gleser. Psychological Testing and Personality. University of Illinois Press, 1965.

Cummings, Gene. Oral interview, Westfield Treatment Center, Edmonton, Alberta, 1974.

Davidson, M. Changes in Self-Concept and Sociometric Status of Fifth and Sixth Grade Children as a Result of Two Different School Camp Curricula. Unpublished Doctoral Dissertation, University of California, Berkley, 1965.

Davis, O. L. Jr. The effect of a school camp experience on friendship choice, The Journal of Educational Sociology, 1960, 33: 7, 305-313.

Davitz, Joel R. Social perception and sociometric choice of children, Journal of Abnormal Social Psychology, 1955, 50, 173-176.

Deutsch, Morton, and Robert Krauss. Theories in Social Psychology. New York: Basic Books, 1965.

Deutsch, M., and L. Solomen. Reactions to evaluations by others as influenced by self-evaluations, Sociometry, 1959, 22, 93-112.

Dickey, Brenda A. Attitudes toward sex roles and feelings of adequacy in homosexual males, Journal of Consulting Psychology, 1961, 25, 116-122.

Diggory, J. C., and D. E. Magaziner. Self evaluation as a function of instrumentally relevant capacities, Bulletin de l'Ass. Int. de Psychol. appl., 1959, 8, 2-19.

Dittes, J. E. Effect in changes of self-esteem upon impulsiveness and deliveration in making judgments, Journal of Abnormal Social Psychology, 1959, 58, 348-356.

Dittes, J. E. Attractiveness of group as a function of self-esteem and acceptance by group, Journal of Abnormal Social Psychology, 1959, 58, 77-82(b).

Dollard, J. C., and N. E. Miller. Personality and Psychotherapy. New York: McGraw Hill, 1950.

Doris, J. Test anxiety and blame assignment in a failure situation, Journal of Abnormal Social Psychology, 1959, 58, 181-190.

Doris, J., and S. Sarason. Test anxiety and blame assignment in a failure situation, Journal of Abnormal Social Psychology, 1955, 50, 335-338.

Edelson, M., and A. E. Jones. Operational explorations of the conceptual self-system and the interaction between frames of reference, Genetic Psychological Monographs, 1954, 50, 43-139.

Elkin, Frederick. The Child and Society: The Process of Socialization. New York: Random House, 1960.

Emerson, R. M. Mount Everest: A case study of communication feedback and sustained group goal striving, Sociometry, 1966, 29, 213-227.

Ensign, John, and Ruth Ensign. Camping Together as Christians. Richmond, Virginia: John Knox Press, 1958.

Erikson, E. H. Childhood and Society. New York: Norton, 1950.

Erikson, E. H. The problem of ego identity, Journal American Psychoanalytical Ass., 1956, 4, 56-121.

Evan, W. M., and M. Zelditch. A laboratory experiment on bureaucratic authority, American Sociological Review, 1961, 26, 883-893.

Evans, K. M. Sociometry in school: I. Sociometric techniques, Educational Research, Nov., 1963, 6, 50-58.

Ferster, C. B., and B. F. Skinner. Schedules of Reinforcement. New York: Appleton Century Crafts, 1957.

Festinger, L. A theory of social comparison processes, Human Relations, 1954, 7, 117-140.

Festinger, L. A Theory of Cognitive Dissonance. Evanston, Illinois: Row, Peterson, 1957.

Festinger, L., and J. Torrey, and B. Willerman. Self-evaluation as a function of attraction to the group, Human Relations, 1954, 7, 161-174.

Fiedler, F. E. Assumed similarity measures as predictors of team effectiveness, Journal of Abnormal and Social Psychology, 1954, 49, 381-388.

Fiedler, F. E. Leader Attitudes and Group Effectiveness. Urhana: University of Illinois Press, 1958.

Fiedler, F. E. Leadership and leadership effectiveness trait: a reconceptualization of the leadership trait problem. In L. Petrullo and B. M. Boss (Eds.), Leadership and Interpersonal Behavior. New York: Academic Press, 1961.

Fiedler, F. E. Leader attitudes, group climate and group creativity, Journal of Abnormal and Social Psychology, 1962, 65, 308-318.

Fiedler, F. E. A Theory of Leadership Effectiveness. New York: McGraw-Hill, 1967a.

Fitts, W. H., and W. T. Hamner. The self concept and delinquency. Studies on the self concept and rehabilitation, Research Monograph, July, 1971, No. III.

Foster, Herbert L., and Others. An Analysis of an Outward Bound Experience and its Relationship to Teacher Education. State University of New York, Buffalo, Coll. School of Education, 1971, 118.

Frank, F., and L. R. Anderson. Effects of task and group size upon group productivity and member satisfaction, Sociometry, 1971, 34: 1, 135-149.

Frank, G. H., and D. S. Heister. Reliability of the ideal-self-concept, Journal of Counselling Psychology, 1967, 14: 4, 356-357.

French, J. R. P. Field experiments: changing group productivity. In J. G. Miller (Ed.), Experiments in Social Process. New York: McGraw-Hill, 1950, 79-96.

French, J. R. P. Jr., and R. L. Kahn. A programmatic approach to studying the industrial environment and mental health, Journal Social Issues, 1962, 18, No. 3.

French, J. R. P. Jr., and B. Raven. The basis of social power. In D. Cartwright and A. Zander (Eds.), Group Dynamics Research and Theory. Evanston, Illinois: Row and Peterson, 1960, 604-622.

Fromm, E. Man for Himself. New York: Rinehart, 1951.

Gaito, J. Scale classification and statistics. In E. F. Heeraan and L. A. Braskamp (Eds.), Readings in Statistics for Behavioural Sciences. New Jersey: Prentice Hall, 1970.

Garrett, H. E. Statistics in Psychology and Education. New York: David McKay, 1962, 355.

Gerard, H. B. Some effects of involvement upon evaluation, Journal of Abnormal Social Psychology, 1958, 57, 118-120.

Gerard, H. B. Some determinants of self-evaluation, Journal of Abnormal and Social Psychology, 1961, 62, 288-293.

Gergen, Kenneth, and David Marlow. Personality and Social Behavior. Massachusetts: Addison-Wesley, 1970.

Gergen, K. J. The Concept of Self. Toronto: Holt, Rinehart and Winston, 1971.

Gibson, William Garnet. Evaluation of Outdoor Education Using Guttman Scales and Sociometric Analysis. Unpublished Master of Arts Thesis, Department of Physical Education, University of Alberta, 1966.

Glasser, William. Reality Therapy. New York: Harper and Row, 1965.

Goffman, E. The Presentation of the Self in Everyday Life. Garden City, New York: Doubleday, 1959.

Goldstein, K. The Organism. New York: American Book, 1939.

Goldstein, K. Human Nature in the Light of Psychopathology. Cambridge: Harvard University Press, 1940.

Goldstein, K., and M. Scheerer. Abstract and concrete behaviour: an experimental study with special tests, Psychological Monograms, 1941, 53: 2.

Gomolak, Lou. Over the river and through the woods to self awareness, College and University Business, 1972, 53: 2, 43-45.

Gorsuch, Richard L. Factor Analysis. Toronto: W. B. Saunders, 1974.

Gronlund, N. E. Sociometry in the Classroom. New York: Harper Brothers, 1959.

Grosser, D., N. Polansky, and R. Lippitt. A laboratory study of behavioral contagion, Human Relations, 1951, 4, 115-142.

Haas, Harold I., and Martin L. Maehr. Two experiments on the concept of self and the reaction of others, Journal of Personality and Social Psychology, 1965, 1: 1, 100-105.

Hamachek, D. E. Encounters with the Self. New York: Holt, Rinehart and Winston, 1971.

Hare, A. P. Interaction and consensus in different sized groups, American Sociological Review, 1952, 17, 261-267.

Hare, A. P. Handbook of Small Group Research. New York: Free Press, 1962.

Harvey, O. J., H. H. Kelley, and M. M. Shapiro. Reactions to unfavorable evaluations of the self made by other persons, Journal of Personality, 1957, 25, 398-411.

Harvey, O. J., and H. M. Schroder. Cognitive aspects of self and motivation. In O. J. Harvey (Ed.), Motivation and Social Interaction. New York: The Ronald Press, 1963.

Hasell, John. Outward Bound Mountain School. Script of a 35 minute talk, Keremeos, B. C., 1969.

Havighurst, Robert J., Myra A. Robinson, and Mildred Dorr. The development of the ideal self in childhood and adolescence. In Don E. Hamachek (Ed.), The Self in Growth Teaching and Learning. Englewood Cliffs: Prentice-Hall, 1965.

Heaps, Richard A., and Clark T. Thorstenson. Unpublished Research on Outdoor Survival, Brigham Young University, 1971.

Hoffmaster, P. J. Conservation as an objective in outdoor education, The Journal of Educational Sociology, May, 1950, 23, 516-521.

Hollenbeck, Irene E. Report of an Oregon School Camp with Program Emphasis Upon Outdoor Science Experiences. Unpublished Doctor of Education Thesis, University of Colorado, 1958.

Homans, G. C. Social Behavior: Its Elementary Forms. New York: Harcourt Brace, 1961.

Homant, Robert. Semantic differential ratings and the rank ordering of values, Educational and Psychological Measurement, 1969, 29, 885-889.

Hoover, K. H., and R. E. Schutz. A factor analysis of conservation attitudes, Science Education, 1963, 47, 54-63.

Howard, R. C., and L. Berkowitz. Reactions to the evaluation of one's performance, Journal of Personality, 1958, 26, 494-507.

Hyman, H. H., and Eleanor Singer (Eds.). Readings in Reference Group Theory and Research. New York: The Free Press, 1968.

Israel, J. Self-Evaluation and Rejection in Groups. Usala: Almquist and Wiksell, 1956.

Jacobs, T. O. Leadership and Exchange in Formal Organizations. Alexandria, Va: Human Resources Organization, 1971.

James, William. The Principles of Psychology. London: Macmillan, 1890.

Janis, I. L., and P. B. Field. Sex differences and personality factors related to persuasibility. In C. I. Hoveland and I. L. Janis (Eds.), Personality and Persuasibility. New Haven: Yale University Press, 1959, 55-68.

Jennings, Helen. Sociometry in Group Relations. Washington: American Council on Education, 1948.

Jerstad, T., and J. Stelzer. Adventure experiences on treatment for residential mental patients, Therapeutic Recreation Journal, 1973, 7: 3, 8-11.

Jourard, S. M. Identification, parent-cathexis and self-esteem, Journal of Consulting Psychology, 1957, 21, 375-380.

Jourard, S. M. Disclosing Man to Himself. New York: Van Nostrand Reinhold, 1968.

Jung, C. C. The Undiscovered Self. London: Kegan, Paul, 1958.

Kasl, S. V., and J. R. P. French, Jr. The effects of occupational status on physical and mental health, Journal of Sociological Issues, 1962, 18: 3.

Katz, Phyllis, and E. Zigler. Self-image disparity: a developmental approach, Journal of Personality and Social Psychology, 1967, 5, 186-195.

Kay, E. Threats to Self-Esteem. Paper used at American Psychological Association, New York, 1961.

Kelly, Francis J., and Daniel J. Baer. Outward Bound schools as an alternative to institutionalization for adolescent boys, Educational Index, Boston: Fondell Press, 1966.

Kelman, H. C. Compliance, identification and internalization: three processes of attitude change, Conflict Resolution, 1958, 2, 51-60.

Kish, Leslie. Some statistical problems in research design. In Dennis P. Forcese and Stephen Richer (Eds.), Stages of Social Research Contemporary Perspective. Englewood Cliffs: Prentice-Hall, 1970, 110.

Klausner, Samuel Z. Why Man Takes Chances. New York: Doubleday, 1968.

Koffka, K. Principles of Gestalt Psychology. New York: Harcourt, 1935.

Koocher, Gerald P. Swimming, competence and personality change, Journal of Personality and Social Psychology, 1971, 18: 3, 275-278.

Kornriech, L. Berell, J. Straka, and A. Kane. Meaning of self-image disparity as measured by the Q-sort, Journal of Consulting and Clinical Psychology, 1968, 32: 6, 728-730.

Kranzer, Herman C. Effects of School Camping on Selected Aspects of Pupil Behavior - An Experimental Study. Unpublished Doctor of Education Dissertation, University of California, 1958.

Krieger, W. Study on self concept change in campers receives ACA research award, Camping Magazine, 1973, 4, 45.

Lecky, P. Self-Consistency. New York: Island Press, 1945.

Levy, L. H. The meaning and generality of perceived actual-ideal discrepancies, Journal of Consulting Psychology, 1956, 20, 396-398.

Lewin, K. Field Theory in Social Sciences. New York: Harper, 1951.

Lifton, Robert Jay. Thought Reform and the Psychology of Totalism. New York: W. W. Norton, 1961.

Lott, A. J., and B. E. Lott. Group cohesiveness an interpersonal attraction: A review of relationships with antecedent and consequent variables, Psychological Bulletin, 1965, 64, 259-309.

Maehr, M. L., J. Mensing, and S. Nafzger. Concept of self and reaction to others, Sociometry, 1962, 25.

Manis, Melvin. Social interaction and the self-concept, Journal of Abnormal Social Psychology, 1955, 51: 3, 362-369.

Mannheim, Betty F. The Influence of Reference Groups and Membership Groups on Self-Image. Interim Technical Report No. 3. Group Effectiveness Research Laboratory, University of Illinois, 1957.

Mannheim, Betty F. Reference groups, membership groups and the self-image, Sociometry, 1966, 29, 265-279.

Manning, H. Backpacking One Step at a Time. Washington: R.E.I. Press, 1972.

Maslow, Abraham H. Motivation and Personality. New York: Harper, 1954.

Maslow, Abraham H. Toward a Psychology of Being. New York: Van Nostrand Reinhold, 1969.

Mead, G. H. Mind, Self and Society. Chicago: University of Chicago Press, 1934.

Meadows, Donella H., L. Dennis, Jorgen Randers, and William W. Berkiens. The Limits to Growth. New York: Universe Books, 1972.

Medow, H., and A. Zander. Aspirations for the group chosen by central and peripheral members, Journal Personality and Social Psychology, 1965, 1, 224-228.

Mehiens, W. A., and R. L. Ebel. Principles of Education and Psychological Measurement, 1967.

Mehrabian, A., and S. Ksionsky. Some determiners of social interaction, Sociometry, 1972, 35, 588-609.

Miles, Matthew B. Learning to Work in Groups. New York: Teachers College Press, Columbia University, 1959.

Miller, D. R. Identity, situation and social interaction: the impact of social structure on motivation. In S. Koch (Ed.), Psychology: A Study of Science. New York: McGraw Hill, 1962, 6.

Mowrer, O. H. The New Group Therapy. New York: D. Van Nostrand, 1964.

Myers, A. E. Team competition, success and the adjustment of group members, Journal of Abnormal Social Psychology, 1962, 65: 5, 325-332.

McCall, G. J., and J. L. Simmons. Identities and Interactions. New York: The Free Press, 1966.

McDonald, R. L., and M. D. Gynther. Relationship of self and ideal-self descriptions with sex, race and class in southern adolescents, Journal of Personality and Social Psychology, 1965, 1: 1, 85-88.

McGrath, Joseph E. The influence of positive interpersonal relations on adjustment and effectiveness in rifle teams, Journal of Abnormal and Social Psychology, 1962, 65, 365-375.

McLuhan, Marshall. The Medium is the Message. New York: Bantam Books, 1967.

Northway, Mary L., and Barry G. Lowes. The Camp Counselors Book. Toronto: Longmans Canada, 1963.

Olmsted, M. H. The Small Groups. New York: Random House, 1959.

Orlick, Terrance, D. A Socio-Psychological Analysis of Early Sports Participation. Unpublished Doctoral Dissertation, Department of Physical Education, University of Alberta, 1972.

Osgood, Charles E., Edward E. Ware, and Charles Morris. Analysis of the connotative meanings of a variety of human values as expressed by American college students, Journal of Abnormal and Social Psychology, 1961, 62: 1, 62-73.

Parsons, T., and R. F. Bales. Family, Socialization and Interaction Processes. Glencoe, Illinois: Free Press, 1955.

Payne, J., A. W. Drummond, and M. Lunghi. Changes in the self-concept of schoolleavers who participated in an Arctic expedition, The British Journal of Educational Psychology, 1970, 40: 2.

Pepitone, Emmy. Responsibility to the Group and its Effect on the Performance of the Members. Ann Arbor: University of Michigan Doctoral Dissertation, 1952.

Perls, Fredericks. Gestalt Therapy and Human Potentialities, reprinted from Explorations in Human Potentialities by Otto Herbert, Charles Thomas, 1966.

Polanski, Norman, Ronald Lippit, and Fritz Redl. The use of near-sociometric data in research on group treatment processes, Sociometry, 1950, 13, 39-62.

Rabban, M. What camps can do to meet individual campers' needs and still maintain group effectiveness, Camping Magazine, 1973, 45, 3.

Rasmussen, G., and A. Zander. Group membership and self-evaluation, Human Relations, 1954, 7, 239-251.

Reger, Roger. An attempt to integrate a group isolate, Journal of Educational Sociology, 1962, 36, 154-157.

Rogers, C. R. Client-Centered Therapy. Boston: Houghton Mifflin, 1951.

Rogers, C. R. A theory of therapy, personality, and interpersonal relationships, as developed in the client-centered framework. In Koch (Ed.), Psychology: A Study of a Science. New York: McGraw-Hill, 1959, 3, 184-256.

Rogers, C. R. The process of the basic encounter group. In J. F. T. Bugental (Ed.), Challenges of Humanistic Psychology. New York: McGraw-Hill, 1967, 261-276.

Rogers, C. R., and Rosalind F. Dymond, (Eds.). Psychotherapy and Personality Change. Chicago: University of Chicago Press, 1954.

Rosenberg, Morris. Society and the Adolescent Self-Image. Princeton: Princeton University Press, 1965.

Rosenthal, R., and L. Jacobson. Pygmalian in the Classroom: Teacher Expectation and Pupils Intellectual Development. New York: Holt, Rinehart and Winston, 1968.

Satir, Virginia. People Making. Palo Alta, California: Science and Behavior Books, 1972.

Schachter, S. Deviation rejection and communication, Journal of Abnormal Social Psychology, 1951, 46, 190-207.

Schein, Edgar H. Management development, human relations training, and the process of influence. In Irving B. Weschler and Edgar H. Schein (Eds.), Issues in Training. Wash: National Education Assn., 1962.

Schein, Edgar H., Inge Schneier, and Curtis H. Barker. Coercive Persuasion. New York: W. W. Nanton, 1961.

Schein, Edgar H., and W. G. Bennis. Personal and Organizational Change Through Group Methods. New York: John Wiley and Sons, 1965.

Schutz, W. C. FIRO: A Three Dimensional Theory of Interpersonal Behavior. New York: Rinehart, 1958.

Schutz, W. C. The ego, FIRO theory, and the leader as completer. In L. Petrullo and B. M. Bass (Eds.), Leadership and Interpersonal Behavior. New York: Holt, Rinehart and Winston, 1961, 6.

Scott, Harvey A. Teen-Age Self-Identity in Competitive Sport: A Theoretical and Experimental Analysis. Unpublished Doctoral Dissertation, Department of Physical Education, University of Alberta, 1972.

Sears, Pauline. Level of aspiration in relation to some variables of personality: clinical studies, Journal of Social Psychology, 1941, 14, 311-336.

Secord, P. F., and C. W. Backman. An interpersonal approach to personality. In Brendan A. Maher (Ed.), Experimental Personality Research, Volume 2. New York: Academic Press, 1963.

Secord, P. F., and C. W. Backman. Social Psychology. New York: McGraw-Hill, 1964.

Sharp, L. B. Introduction to outdoor education for American youth, Journal of American Association for Health, Physical Education and Recreation, Washington, D. C., 1957.

Shaw, M. E. Group Dynamics. New York: McGraw-Hill, 1971.

Sherif, M. Intergroup Relations and Leadership. London: John Wiley and Sons, 1962.

Sherif, M., and H. Cantril. The Psychology of Ego-Involvement. New York: John Wiley and Sons, 1947.

Sherif, M., and M. Sherif. Attitude, Ego-Involvement and Change. New York: John Wiley and Sons, 1967.

Sherwood, John J. Self-Identity and Self-Actualization: A Theory and Research. Unpublished Doctoral Dissertation, University of Michigan, 1962.

Sherwood, J. J. Self identity and referent others, Sociometry, 1965, 28, 66-81.

Shibutani, T. Society and Personality. Englewood Cliffs: Prentice-Hall, 1961.

Shostrom, Everett L. EITS Manual Personal Orientation Inventory. San Diego: Educational and Industrial Testing Service, 1966.

Siegal, A. E., and S. Siegal. Reference groups, membership groups and attitude change. In D. Cartwright and A. Zander (Eds.), Group Dynamics Research and Theory. New York: Row, Peterson and Co., 1953.

Slater, P. E. Contrasting correlates of group size, Sociometry, 1958, 21, 129-139.

Smith, G. M. Six measures of self-concept discrepancy and instability: their interrelations, reliability and relations to other personality measures, Journal of Consulting Psychology, 1958, 22, 101-113.

Smith, Julian W., Reynold E. Carlson, George W. Donaldson, and Hugh B. Masters. Outdoor Education. Englewood Cliffs: Prentice-Hall, 1963.

Stack, Genevieve Carter. An Evaluation of Attitudinal Outcomes of Fifth and Sixth Grade Students Following a Period of School Camping. Unpublished Doctoral Dissertation, University of Oklahoma, 1960.

Steel, D. T. The Effects of Physical Skills and Academic Self-Concepts on General Self-Concept and Academic Achievement in a Summer Camp Environment. Unpublished Doctoral Dissertation, Michigan State University, 1969.

Stewart, Bill. Gestalt Therapy a la F. Perls. Unpublished paper, Department of Educational Psychology, Faculty of Education, University of Alberta, 1971.

Stock, Dorothy. An investigation into the intercorrelations between self-concept and feelings directed toward other persons and groups, Journal of Consulting Psychology, 1949, 13, 176-180.

Stogdill, R. M. Individual Behavior and Group Achievement. New York: Oxford University Press, 1959.

Stogdill, R. M. Team Achievement Under High Motivation. The Bureau of Business Research, College of Commerce and Administration, Ohio State University, Columbus, Ohio, 1963.

Stogdill, R. M., E. L. Scott, and W. E. Jaynes. Leadership and Role Expectations. Columbus: Ohio State University Bureau of Business Research, 1957.

Stotland, E., S. Thorley, E. Thomas, A. R. Cohen, and A. Zander. The effects of group expectations and self-esteem upon self-evaluation, Journal of Abnormal Social Psychology, 1957, 54, 55-63.

Stotland, E., and A. Zander. Effects of public and private failure on self-evaluation, Journal of Abnormal Social Psychology, 1958, 56, 223-229.

Sullivan, David S., B. Springer, and B. Williams. Effects of College Sponsored Non-Academic Programs on Freshman Performance. Unpublished research, Wheaton College, 1970.

The Annual Report. St. John's of Alberta, Warburg, Alberta, 1970.

Thibault, J. W., and H. H. Kelly. The Social Psychology of Groups. New York: Wiley, 1959.

Thomas, E. J., and C. F. Fink. Effects of group size, Psychological Bulletin, 1963, 60, 371-384.

Thompson, Shona M. Self, Others, and Group Interaction in Outdoor Education. Unpublished Master of Arts Thesis, Department of Physical Education, University of Alberta, 1975.

Thompson, Warren. Studies on the Self-Concept and Rehabilitation. Library of Congress Card Number, June, 1972, 72-80061.

Tiger, Lionel. Men in Groups. Don Mills: Thomas Nelson, 1969.

Torrance, E. P. A theory of leadership and interpersonal behavior under stress. In L. Petrullo and B. Bass (Eds.), Leadership and Interpersonal Behavior. New York: Holt, Rinehart and Winston, 1961.

Torrance, E. P., and N. C. Aliotti. Accuracy, task effectiveness, and emergence of social-emotional resolves as a function of one and two expert groups, Journal of Psychology, 1965, 61, 161-170.

Tuckman, B. W. Development sequence in small groups, Psychological Bulletin, 1965, 63, 384-399.

Turner, R. H. Role-taking: process versus conformity. In A. M. Rose (Ed.), Human Behavior and Social Processes. Boston: Houghton-Mifflin, 1962.

Turner, R. H., and R. H. Vanderlippe. Self-ideal congruence as an index of adjustment, Journal of Abnormal Social Psychology, 1958, 57, 202-206.

VanderWilt, Robert B., and Ronald A. Klocke. Self-actualization of females in an experimental orientation program, Journal of the National Association of Women's Deans and Counsellors, Spring, 1971.

Van Matre, Steve. Acclimatization: A Sensory and Conceptual Approach to Ecological Involvement. Martinsville: Bardford Wood, 1972.

Videbeck, Richard. Self-concept and the reactions of others, Sociometry, 1960, 23, 351-359.

Vidish, Arthur J. Participant observation and the collection and interpretation of data, American Journal of Sociology, 1971, 60, 354-360.

Walcotte, Harry F. The Man in the Principal's Office: An Ethnography. New York: Holt, Rinehart and Winston, 1973.

Warriner, Charles K. Leadership in the small group, American Journal of Sociology, 1955, 60, 361-369.

Weschler, I. R., F. Massavik, and R. Tannenbaum. The self in process: a sensitivity teaming emphasis. In I. R. Weschler and E. H. Schien, (Eds.), Issues in Training Selected Readings, Series Five. Washington: National Training Laboratories Publications, 1962, 33-46.

Wheeler, L. Motivation as a determinant of upward comparison, Journal of Experimental Social Psychology, 1966, Supplement 1, 27-31.

Whitaker, Hale Patricia. Proposed method for analyzing sociometric data, Research Quarterly, May 1956, 27, 152-160.

Whyte, W. F. Street Corner Society. Chicago: University of Chicago Press, 1955.

Wilcox, H. Anne, and Bruce R. Fretz. Actual-ideal discrepancies and adjustment, Journal of Counseling Psychology, 1971, 18: 2, 166-169.

Willman, H. C., and R. F. Chun. Homeward bound: an alternative to the institutionalization of adjudicated juvenile offenders, Federal Probation, 1973, 37: 3, 52-54.

Worchel, P., and Betty L. McCormick. Self-concept and dissonance reduction, Journal of Personality, 1963, 588-599.

Wylie, R. C. The Self-Concept: A Critical Survey of Pertinent Research Literature. Lincoln: University of Nebraska, 1961.

Zander, A. Group membership and individual security, Human Relations, 1958, 11, 99-111.

Zander, A., E. Stotland, and D. Wolfe. Unity of group, identification with group and self-esteem of members, Journal of Personality, 1960, 28, 463-478.

APPENDIX A

FIRST TRIAL INVENTORY

GIBSON SELF-CONCEPT - ENVIRONMENTAL

INVENTORY

No. _____ Name ________________________________ Date __________

(Surname) (Christian Name)

Age on last Birth. _____ Sex M 1 F 2 Telephone No. ______________

Outdoor Ex: Farming (1) Fishing (2) Oil (3) Parks (4) Logging (5) Forestry (6) Survey (7) Travel (8) Other (9)

Camping Ex: Scouting (1) Church camps (2) YMCA (3) Outward Bound (4) Private (5) Jr. Forestry (6) Youth Hostel (7) Family Camping (8) Other (9)

What is your purpose in taking P.E. 389?
Teach Out-Ed (1) Know more about Out-Ed (2) Camp leader (3)
Thought would be interesting (4) Interested in this type of Ed (5)
Other (6)

As a person interacts with nature in a variety of roles and experiences, one develops a picture of himself in this element. This questionnaire is an attempt to find out how people picture themselves in their relation to the environment. This is not a test. There are no right or wrong answers. The important thing is that you answer the questions the way you really feel . . . the way YOU SEE YOURSELF.

The final value of the information which you give will depend upon your frankness and the care with which you answer the questions. Only you can tell us how you really see yourself as a part of this setting. This can be a very rewarding learning experience for you in the development of self insight.

The responses you make to the following questions will be completely confidential. Their use will be to give some indication as to where people see themselves in the natural environment and how they develop in this setting. Thus we hope it will help us in shaping courses in Outdoor Education which are meaningful for the future.

You are to answer the questions as if you were only giving the answers to yourself . . . not to somebody else. We are not interested in how you represent yourself to other people. We are not interested in how you think other people see you

ONLY HOW YOU SEE YOURSELF IN RELATION TO THIS SETTING.

INSTRUCTIONS

The following characteristics have been found to be used by many persons in describing themselves in their interaction with the environment. Not all persons use all of these characteristics to describe themselves. If you find that some of these characteristics are not part of your present picture of yourself please indicate by checking the appropriate place. Each characteristic is represented graphically by a scale.

1. Please indicate the location on the scale where you presently picture yourself by an: X. Remember that your response is not based on how you see yourself on different specific occasions but how you picture yourself in general or most usually. In addition to your present picture of yourself, we are also interested in the aspirations which people have for themselves. All people have a desired picture of themselves toward which they see themselves to be realistically striving. This is not meant to be the person's ideal - rather, that picture of yourself which you actually feel you can aspire to attain in the future.
2. Please indicate the location on the scale where you aspire to picture yourself by an: O. Do not restrict yourself to a particular range on the scale, feel free to place your responses anywhere on the scale. The only requirement is that you be

honest with yourself.

The scale runs continuously from one labelled extreme to the other with varying degrees being indicated by spaces (_______). Mark both an X indicating your present picture of yourself and an O for your aspired picture of yourself. Place your marks in the middle of the space (_______), not on the boundaries.

Awareness in nature ____ Unaware in nature

or, this characteristic is not a part of my picture of myself ___

Skillful in the outdoors ____ Not skillful in the outdoors

or, this characteristic is not a part of my picture of myself ___

Competent outdoorsman ____ Inept outdoorsman

or, this characteristic is not a part of my picture of myself ___

Follower ____ Leader

or, this characteristic is not a part of my picture of myself ___

Timid in the wilderness ____ Bold in the wilderness

or, this characteristic is not a part of my picture of myself ___

Hostile to the outdoors ____ At peace with the outdoors

or, this characteristic is not a part of my picture of myself ___

Competing with nature ____ Cooperating with nature

or, this characteristic is not a part of my picture of myself ___

Fearful in the wilderness ____ Unafraid in the wilderness

or, this characteristic is not a part of my picture of myself ___

Perseverance ________________________________ Give up easily

or, this characteristic is not a part of my picture of myself ___

Have self-discipline ________________________________ Have poor self-discipline

or, this characteristic is not a part of my picture of myself ___

Philosophical ________________________________ Unphilosophical

or, this characteristic is not a part of my picture of myself ___

Have good judgement ________________________________ Lack judgement

or, this characteristic is not a part of my picture of myself ___

Initiative ________________________________ Lack initiative

or, this characteristic is not a part of my picture of myself ___

Determined ________________________________ Easy going

or, this characteristic is not a part of my picture of myself ___

Compassionate towards animals ________________________________ Not compassionate towards animals

or, this characteristic is not a part of my picture of myself ___

Physically can cope ________________________________ Can't physically cope

or, this characteristic is not a part of my picture of myself ___

Feel at home with nature ________________________________ Don't feel at home with nature

or, this characteristic is not a part of my picture of myself ___

Senses turned on ________________________________ Senses not turned on

or, this characteristic is not a part of my picture of myself ___

Impulsive ____________________ Controlled

or, this characteristic is not a part of my picture of myself ___

Can adjust to change ____________________ Am rigid to change

or, this characteristic is not a part of my picture of myself ___

Self-confident ____________________ Lack confidence

or, this characteristic is not a part of my picture of myself ___

Creative with natural items ____________________ Uncreative with natural items

or, this characteristic is not a part of my picture of myself ___

Outdoorsman ____________________ Non-outdoorsman

or, this characteristic is not a part of my picture of myself ___

Sensitive toward nature ____________________ Not sensitive toward nature

or, this characteristic is not a part of my picture of myself ___

Ecological defender ____________________ Unconcerned about ecology

or, this characteristic is not a part of my picture of myself ___

Respectful of natural law ____________________ Disrespectful

or, this characteristic is not a part of my picture of myself ___

Decisive ____________________ Indecisive

or, this characteristic is not a part of my picture of myself ___

Careful with tools ____________________ Careless with tools

or, this characteristic is not a part of my picture of myself ___

Attentive to nature's rhythms ______________________________ Unattentive to nature's rhythms

or, this characteristic is not a part of my picture of myself ___

Controlling nature ______________________________ Controlled by nature

or, this characteristic is not a part of my picture of myself ___

Skilled in use of tools ______________________________ Unskilled in use of tools

or, this characteristic is not a part of my picture of myself ___

Capable orienteer in the wilderness ______________________________ Inept orienteer in the wilderness

or, this characteristic is not a part of my picture of myself ___

White water canoeist ______________________________ Can't control a canoe

or, this characteristic is not a part of my picture of myself ___

Survival expert ______________________________ Non-expert at survival

or, this characteristic is not a part of my picture of myself ___

Mountain tripper ______________________________ No mountain experience

or, this characteristic is not a part of my picture of myself ___

Naturalist ______________________________ Limited knowledge about nature

or, this characteristic is not a part of my picture of myself ___

Careful in planning ______________________________ Careless in planning

or, this characteristic is not a part of my picture of myself ___

Capable with map and compass ______________________________ Inept with map and compass

or, this characteristic is not a part of my picture of myself ___

Wilderness guide ________________________ Incapable of guiding in the wilderness

or, this characteristic is not a part of my picture of myself ___

Practical in solving problems ________________________ Impractical

or, this characteristic is not a part of my picture of myself ___

Efficient worker ________________________ Inefficient

or, this characteristic is not a part of my picture of myself ___

Like exploring ________________________ Dislike exploring

or, this characteristic is not a part of my picture of myself ___

Can take physical pain ________________________ Can't take physical pain

or, this characteristic is not a part of my picture of myself ___

Communicate ideas well ________________________ Have difficulty communicating ideas

or, this characteristic is not a part of my picture of myself ___

Treat others as equals ________________________ Act superior to others

or, this characteristic is not a part of my picture of myself ___

Able to live off the wilds ________________________ Unable to live off the wilds

or, this characteristic is not a part of my picture of myself ___

Hunter ________________________ No hunter

or, this characteristic is not a part of my picture of myself ___

Fisherman ________________________ No fisherman

or, this characteristic is not a part of my picture of myself ___

Erratic ______________________________ Steady

or, this characteristic is not a part of my picture of myself ___

Kind ___ ___________________________ Unkind

or, this characteristic is not a part of my picture of myself ___

Outdoor cook ______________________________ No cook

or, this characteristic is not a part of my picture of myself ___

Mountain rock climber ______________________________ No rock climber

or, this characteristic is not a part of my picture of myself ___

Conservationalist ______________________________ Exploiter of nature

or, this characteristic is not a part of my picture of myself ___

Afraid in the dark ______________________________ Unafraid in the dark

or, this characteristic is not a part of my picture of myself ___

Terrified of being alone ______________________________ Like being alone

or, this characteristic is not a part of my picture of myself ___

Have a good sense of humor ______________________________ Lack a sense of humor

or, this characteristic is not a part of my picture of myself ___

Think clearly under stress ______________________________ Fall apart under stress

or, this characteristic is not a part of my picture of myself ___

Responsible ______________________________ Undependable

or, this characteristic is not a part of my picture of myself ___

Impatient ____________________ Patient

or, this characteristic is not a part of my picture of myself ___

Forceful ____________________ Meek

or, this characteristic is not a part of my picture of myself ___

Get along well with others ____________________ Do not get along well with others

or, this characteristic is not a part of my picture of myself ___

Good physical endurance ____________________ Poor physical endurance

or, this characteristic is not a part of my picture of myself ___

Generous ____________________ Stingy

or, this characteristic is not a part of my picture of myself ___

Have insight ____________________ Do not have insight

or, this characteristic is not a part of my picture of myself ___

Read nature's signs ____________________ Do not read nature's signs

or, this characteristic is not a part of my picture of myself ___

Natural biologist ____________________ Ignorant about biology

or, this characteristic is not a part of my picture of myself ___

Songleader ____________________ Can't lead singing

or, this characteristic is not a part of my picture of myself ___

Dramatist ____________________ Don't act

or, this characteristic is not a part of my picture of myself ___

Storyteller ____________________ Afraid to tell stories

0

or, this characteristic is not a part of my picture of myself ___

Good at nature crafts ______________________________ Poor at nature crafts

or, this characteristic is not a part of my picture of myself ___

Deep thinker ______________________________ Shallow thinker

or, this characteristic is not a part of my picture of myself ___

Well organized ______________________________ Poorly organized

or, this characteristic is not a part of my picture of myself ___

Astronomer ______________________________ Don't know the stars

or, this characteristic is not a part of my picture of myself ___

Sensitive to others ______________________________ Insensitive to others

or, this characteristic is not a part of my picture of myself ___

Critical of others ______________________________ Tolerant of others

or, this characteristic is not a part of my picture of myself ___

Skillful with others ______________________________ Awkward with others

or, this characteristic is not a part of my picture of myself ___

Reserved ______________________________ Talkative

or, this characteristic is not a part of my picture of myself ___

Value myself high ______________________________ Value myself low

or, this characteristic is not a part of my picture of myself ___

Participant ______________________________ Non-participant

or, this characteristic is not a part of my picture of myself ___

Competent with others ______________________________ Incompetent with others

or, this characteristic is not a part of my picture of myself ___

Non-aggressive ______________________________ Aggressive

or, this characteristic is not a
part of my picture of myself ___

Honest ______________________________ Dishonest

or, this characteristic is not a
part of my picture of myself ___

Active ______________________________ Passive

or, this characteristic is not a
part of my picture of myself ___

Likeable ______________________________ Not likeable

or, this characteristic is not a
part of my picture of myself ___

Competitive ______________________________ Cooperative

or, this characteristic is not a
part of my picture of myself ___

Have insight about myself ______________________________ Lack insight about myself

or, this characteristic is not a
part of my picture of myself ___

Timid ______________________________ Bold

or, this characteristic is not a
part of my picture of myself ___

Individualist ______________________________ Conformist

or, this characteristic is not a
part of my picture of myself ___

Hostile to others ______________________________ Affectionate to others

or, this characteristic is not a
part of my picture of myself ___

Tense ______________________________ Relaxed

or, this characteristic is not a
part of my picture of myself ___

Unfair ______________________________ Fair

or, this characteristic is not a
part of my picture of myself ___

Unintelligent ______________________________ Intelligent

or, this characteristic is not a
part of my picture of myself ___

Friendly ______________________________ Unfriendly

or, this characteristic is not a
part of my picture of myself ___

Independent ______________________________ Dependent

or, this characteristic is not a
part of my picture of myself ___

APPENDIX B

SCANNER SHEETS FOR FINAL TEST

NAME ________________ Last ________________ First ________________ Middle

FACULTY or SCHOOL ________________

334

AGE ______ Years YEAR or GRADE ______ ☐ Male ☐ Female DATE ______ Day Month Year

1. Od. Ex.

Camp Ex.

2. 389

Indicate response by placing a mark between the guidelines as shown in the example. Use HB pencil. Don't make marks longer than guidelines.

Example

I. D. NUMBER

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

0 1 2 3 4 5 6 7 8 9

No

1 (0 X
2 (0 X
3 (0 X
4 (0 X
5 (0 X
6 (0 X
7 (0 X
8 (0 X
9 (0 X
10 (0 X
11 (0 X
12 (0 X
13 (0 X
14 (0 X
15 (0 X
16 (0 X
17 (0 X
18 (0 X
19 (0 X
20 (0 X
21 (0 X
22 (0 X

M5047

No

23 (0 X
24 (0 X
25 (0 X
26 (0 X
27 (0 X
28 (0 X
29 (0 X
30 (0 X
31 (0 X
32 (0 X
33 (0 X
34 (0 X
35 (0 X
36 (0 X
37 (0 X

Age	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
Sex	M F
Od. Ex.	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
Camp Ex.	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
389	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9

CAUTION — AVOID PLACING ANY MARKS AMONG THE BLACK TIMING LINES

NAME ______________________________
Last First Middle

AGE ________ Years
YEAR or GRADE ________
☐ Male ☐ Female
DATE ________ Day Month Year

FACULTY or SCHOOL ________________

335

I. D. NUMBER

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

1. ________________

____

2. ________________

Indicate response by placing a mark between the guidelines as shown in the example. Use HB pencil. Don't make marks longer than guidelines.

Example

Part III

1. 1 2 3 4 5 6 7 8 9 10
2.
3.
4.
5.
6.
7.
8.
9.
10. 1 2 3 4 5 6 7 8 9 10
11.
12.
13.
14.
15.
16.
17.
18.
19.
20. 1 2 3 4 5 6 7 8 9 10
21.
22.
23.
24.
25.
26.

Part IV

1. 1 2 3 4 5 6 7 8 9 10
2.
3.
4.
5.
6.
7.
8.
9.
10. 1 2 3 4 5 6 7 8 9 10
11.
12.
13.
14.
15.
16.
17.
18.
19.
20. 1 2 3 4 5 6 7 8 9 10
21.
22.
23.
24.
25.
26.

Part V

1. 1 2 3 4 5 6 7 8 9 10
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.

IBM 5047

CAUTION — AVOID PLACING ANY MARKS AMONG THE BLACK TIMING LINES

NAME ______________________________________
Last First Middle

FACULTY or SCHOOL ______________________________________

336

AGE ________ Years YEAR or GRADE ____________ ☐ ☐ Male Female DATE ______________ Day Month Year

I. D. NUMBER

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

1. ______________________________

____

2. ______________________________

Indicate response by placing a mark between the guidelines as shown in the example. Use HB pencil. Don't make marks longer than guidelines.

Example

Part VI

A1.	1	2	3	4	5	6	7	8	9	10	E1.	1	2	3	4	5	6	7	8	9	10
2.											2.										
3.											3.										
4.											4.										
5.											5.										
6.											6.										
7.											7.										
8.											8.										
9.											9.										
10.											10.										
11.											11.										
B1.	1	2	3	4	5	6	7	8	9	10	F1.	1	2	3	4	5	6	7	8	9	10
2.											2.										
3.											3.										
4.											4.										
5.											5.										
6.											6.										
7.											7.										
8.											8.										
9.											9.										
10.											10.										
11.											11.										
C1.	1	2	3	4	5	6	7	8	9	10	G1.	1	2	3	4	5	6	7	8	9	10
2.											2.										
3.											3.										
4.											4.										
5.											5.										
6.											6.										
7.											7.										
8.											8.										
9.											9.										
10.											10.										
11.											11.										
D1.	1	2	3	4	5	6	7	8	9	10	H1.	1	2	3	4	5	6	7	8	9	10
2.											2.										
3.											3.										
4.											4.										
5.											5.										
6.											6.										
7.											7.										
8.											8.										
9.											9.										
10.											10.										
11.											11.										

IBM 5047

CAUTION — AVOID PLACING ANY MARKS AMONG THE BLACK TIMING LINES

APPENDIX C

TEST GIVEN TO 113 EXPERIENCED OUTDOOR EDUCATION STUDENTS

GIBSON SELF-CONCEPT - ENVIRONMENTAL

INVENTORY

No. ________ Name ________________________________ Date ______________

(Surname) (Christian Name)

Age on last Birth. ______ Sex M 1 F 2 Telephone No. ____________________

In the following categories check only the three most influential factors:

Outdoor Ex: Farming (1) Fishing (2) Oil (3) Parks (4) Logging (5) Forestry (6) Survey (7) Travel (8) Other (9)

Camping Ex: Scouting (1) Church camps (2) YMCA (3) Outward Bound (4) Private (5) Jr. Forestry (6) Youth Hostel (7) Family camping (8) Other (9)

What is your purpose in taking P.E. 389?
Teach Out-Ed (1) Know more about Out-Ed (2) Camp leader (3) Thought it would be interesting (4) Interested in this type of Ed (5) Want to improve my camping skills (6) Other (7)

As a person interacts with nature in a variety of roles and experiences, one develops a picture of himself in this element. This questionnaire is an attempt to find out how people picture themselves in their relation to the environment. This is not a test. There are no right or wrong answers. The important thing is that you answer the questions the way you really feel . . . the way YOU SEE YOURSELF.

The final value of the information which you give will depend upon your frankness and the care with which you answer the questions. Only you can tell us how you really see yourself as a part of this setting. This can be a very rewarding learning experience for you in the development of self insight.

The responses you make to the following questions will be completely confidential. Their use will be to give some indication as to where people see themselves in the natural environment and how they develop in this setting. Thus we hope it will help us in shaping courses in Outdoor

Education which are meaningful for the future.

You are to answer the questions as if you were only giving the answers to yourself . . . not to somebody else. We are not interested in how you represent yourself to other people. We are not interested in how you think other people see you

Only how you see yourself in relation to this setting.

INSTRUCTIONS

A person desiring to be more effective in the outdoors soon develops a mental picture of the ideal outdoorsman. This ideal picture is composed of a great many characteristics that are necessary for both inter-relating to people and the natural environment. In this inventory we would like you to locate your ideal toward which you are striving for each characteristic and also to locate your present self-picture.

Your responses are marked on the score cards in two categories indicated by an O for ideal, and an X for present self. If you find some characteristic which is not part of your present picture of yourself, indicate by marking in the space opposite the X category to the right of the dotted line. (under No)

---

1 Awareness of nature ______________________________ Unaware of nature

or, this characteristic is not a part of my picture of myself ___

2 Skillful in the outdoors ______________________________ Not skillful in the outdoors

or, this characteristic is not a part of my picture of myself ___

3 Competent outdoorsman ______________________________ Inept outdoorsman

or, this characteristic is not a part of my picture of myself ___

4 Follower in the outdoors ____________________ Leader in the outdoors

or, this characteristic is not a part of my picture of myself ___

5 Not alert in the wilderness ____________________ Ever alert in the wilderness

or, this characteristic is not a part of my picture of myself ___

6 Hostile to the outdoors ____________________ At peace with the outdoors

or, this characteristic is not a part of my picture of myself ___

7 Aggressing nature ____________________ Cooperating with nature

or, this characteristic is not a part of my picture of myself ___

8 Fearful in the wilderness ____________________ Unafraid in the wilderness

or, this characteristic is not a part of my picture of myself ___

9 Perseverance ____________________ Give up easily

or, this characteristic is not a part of my picture of myself ___

10 Have poor self-discipline ____________________ Have self-discipline

or, this characteristic is not a part of my picture of myself ___

11 Unphilosophical ____________________ Philosophical

or, this characteristic is not a part of my picture of myself ___

12 Have good judgement ____________________ Lack judgement

or, this characteristic is not a part of my picture of myself ___

13 Initiative ____________________ Lack initiative

or, this characteristic is not a part of my picture of myself ___

14 Determined ______________________________ Irresolute

or, this characteristic is not a part of my picture of myself ___

15 Not compassionate towards animals ______________________________ Compassionate towards animals

or, this characteristic is not a part of my picture of myself ___

16 Physically can cope ______________________________ Can't cope physically

or, this characteristic is not a part of my picture of myself ___

17 Don't feel at home with nature ______________________________ Feel at home with nature

or, this characteristic is not a part of my picture of myself ___

18 Senses turned on ______________________________ Senses not turned on

or, this characteristic is not a part of my picture of myself ___

19 Impulsive ______________________________ Self-controlled

or, this characteristic is not a part of my picture of myself ___

20 Can adjust to changes ______________________________ Am rigid to change

or, this characteristic is not a part of my picture of myself ___

21 Lack confidence ______________________________ Self-confident

or, this characteristic is not a part of my picture of myself ___

22 Outdoorsman ______________________________ Non-outdoorsman

or, this characteristic is not a part of my picture of myself ____

23 Creative with natural items ______________________________ Uncreative with natural items

or, this characteristic is not a part of my picture of myself ___

24 Not sensitive toward nature	____________________ or, this characteristic is not a part of my picture of myself ___	Sensitive toward nature
25 Unconcerned about ecology	____________________ or, this characteristic is not a part of my picture of myself ___	Ecological defender
26 Respect the laws of nature	____________________ or, this characteristic is not a part of my picture of myself ___	Fight nature's laws
27 Decisive	____________________ or, this characteristic is not a part of my picture of myself ___	Indecisive
28 Careful with tools	____________________ or, this characteristic is not a part of my picture of myself ___	Careless with tools
29 Attentive to nature's signs	____________________ or, this characteristic is not a part of my picture of myself ___	Inattentive to nature's signs
30 Desire to dominate nature	____________________ or, this characteristic is not a part of my picture of myself ___	Desire to be with nature
31 Skilled in use of tools	____________________ or, this characteristic is not a part of my picture of myself ___	Unskilled in use of tools
32 Capable orienteer in the wilderness	____________________ or, this characteristic is not a part of my picture of myself ___	Inept orienteer in the wilderness
33 White water canoeist	____________________ or, this characteristic is not a part of my picture of myself ___	Can't control a canoe
34 Survival expert	____________________ or, this characteristic is not a part of my picture of myself ___	Non-survival expert

35 No mountain experience ______________________ Mountain tripper

or, this characteristic is not a part of my picture of myself ___

36 Limited knowledge about nature ______________________ Wide knowledge about nature

or, this characteristic is not a part of my picture of myself ___

37 Careful in planning ______________________ Careless in planning

or, this characteristic is not a part of my picture of myself ___

38 Capable with map and compass ______________________ Inept with map and compass

or, this characteristic is not a part of my picture of myself ___

39 Incapable of guiding in the wilderness ______________________ Wilderness guide

or, this characteristic is not a part of my picture of myself ___

40 Impractical ______________________ Practical in solving problems

or, this characteristic is not a part of my picture of myself /___

41 Inefficient ______________________ Efficient worker

or, this characteristic is not a part of my picture of myself ___

42 Dislike exploring ______________________ Wilderness explorer

or, this characteristic is not a part of my picture of myself ___

43 Can't take physical pain ______________________ Can endure physical pain

or, this characteristic is not a part of my picture of myself ___

44 Communicate ideas well ______________________ Have difficulty communicating ideas

or, this characteristic is not a part of my picture of myself ___

45 Make others feel important ____________________ Act superior to others

or, this characteristic is not a part of my picture of myself ___

46 Unable to live off the wilds ____________________ Able to live off the wilds

or, this characteristic is not a part of my picture of myself ___

47 No hunter ____________________ Hunter (survival only)

or, this characteristic is not a part of my picture of myself ___

48 Erratic ____________________ Steady

or, this characteristic is not a part of my picture of myself ___

49 No fisherman ____________________ Fisherman (survival only)

or, this characteristic is not a part of my picture of myself ___

50 Kind to others ____________________ Unkind to others

or, this characteristic is not a part of my picture of myself ___

51 Outdoor cook ____________________ No cook

or, this characteristic is not a part of my picture of myself ___

52 Mountain rock climber ____________________ No rock climber

or, this characteristic is not a part of my picture of myself ___

53 Conservationalist ____________________ Exploiter of nature

or, this characteristic is not a part of my picture of myself ___

54 Afraid in the dark ____________________ Comfortable in the dark

or, this characteristic is not a part of my picture of myself ___

55 Terrified of being alone ______________________________ Unafraid of being alone

or, this characteristic is not a part of my picture of myself ___

56 Have a good sense of humor ______________________________ Lack a sense of humor

or, this characteristic is not a part of my picture of myself ___

57 Think clearly under stress ______________________________ Fall apart under stress

or, this characteristic is not a part of my picture of myself ___

58 Responsible ______________________________ Undependable

or, this characteristic is not a part of my picture of myself ___

59 Impatient ______________________________ Patient

or, this characteristic is not a part of my picture of myself ___

60 Forceful ______________________________ Timid

or, this characteristic is not a part of my picture of myself ___

61 Get along well with others ______________________________ Do not get along well with others

or, this characteristic is not a part of my picture of myself ___

62 Poor physical endurance ______________________________ Good physical endurance

or, this characteristic is not a part of my picture of myself ___

63 Stingy ______________________________ Generous

or, this characteristic is not a part of my picture of myself ___

64 Have insight into danger ______________________________ Do not have insight

or, this characteristic is not a part of my picture of myself ___

65 Do not read animal signs ______________________ Read animal signs

or, this characteristic is not a part of my picture of myself ___

66 Natural biologist ______________________ Ignorant about biology

or, this characteristic is not a part of my picture of myself ___

67 Songleader ______________________ Can't lead singing

or, this characteristic is not a part of my picture of myself ___

68 Don't act ______________________ Dramatist

or, this characteristic is not a part of my picture of myself ___

69 Afraid to tell stories ______________________ Storyteller

or, this characteristic is not a part of my picture of myself ___

70 Good at nature crafts ______________________ Poor at nature crafts

or, this characteristic is not a part of my picture of myself ___

71 Deep thinker ______________________ Shallow thinker

or, this characteristic is not a part of my picture of myself ___

72 Well organized ______________________ Poorly organized

or, this characteristic is not a part of my picture of myself ___

73 Don't know the stars ______________________ Astronomer

or, this characteristic is not a part of my picture of myself ___

74 Sensitive to others ______________________ Insensitive to others

or, this characteristic is not a part of my picture of myself ___

75 Critical of others ______________________________ Tolerant of others

or, this characteristic is not a part of my picture of myself ___

76 Skillful with others in the group ______________________________ Awkward with others

or, this characteristic is not a part of my picture of myself ___

77 Reserved ______________________________ Communicative

or, this characteristic is not a part of my picture of myself ___

78 Value myself high ______________________________ Value myself low

or, this characteristic is not a part of my picture of myself ___

79 Participant ______________________________ Non-participant

or, this characteristic is not a part of my picture of myself ___

80 Competent with others ______________________________ Incompetent with others

or, this characteristic is not a part of my picture of myself ___

81 Non-aggressive with people ______________________________ Aggressive with people

or, this characteristic is not a part of my picture of myself ___

82 Dishonest ______________________________ Honest

or, this characteristic is not a part of my picture of myself ___

83 Active ______________________________ Passive

or, this characteristic is not a part of my picture of myself ___

84 Not likeable ______________________________ Likeable

or, this characteristic is not a part of my picture of myself ___

85 Highly competitive ______________________ Uncompetitive

or, this characteristic is not a part of my picture of myself ___

86 Lack insight about myself ______________________ Insight about myself

or, this characteristic is not a part of my picture of myself ___

87 Timid ______________________ Bold

or, this characteristic is not a part of my picture of myself ___

88 Individualist ______________________ Conformist

or, this characteristic is not a part of my picture of myself ___

89 Hostile to others ______________________ Affectionate to others

or, this characteristic is not a part of my picture of myself ___

90 Tense ______________________ Relaxed

or, this characteristic is not a part of my picture of myself ___

91 Unfair ______________________ Fair

or, this characteristic is not a part of my picture of myself ___

92 Unintelligent ______________________ Intelligent

or, this characteristic is not a part of my picture of myself ___

93 Friendly ______________________ Unfriendly

or, this characteristic is not a part of my picture of myself ___

94 Independent thinker ______________________ Dependent thinker

or, this characteristic is not a part of my picture of myself ___

95 Very cooperative with others ______________________ Uncooperative with others

or, this characteristic is not a part of my picture of myself ___

96 Well prepared ______________________ Unprepared

or, this characteristic is not a part of my picture of myself ___

97 Imaginative in problem solving ______________________ Unimaginative

or, this characteristic is not a part of my picture of myself ___

98 Observant in nature ______________________ Unobservant in nature

or, this characteristic is not a part of my picture of myself ___

99 Exhilarated in nature ______________________ Unmoved

or, this characteristic is not a part of my picture of myself ___

100 Spiritual ______________________ Unspiritual

or, this characteristic is not a part of my picture of myself ___

101 Hunter (for sport) ______________________ No hunter

or, this characteristic is not a part of my picture of myself ___

102 Fisherman (for sport) ______________________ No fisherman

or, this characteristic is not a part of my picture of myself ___

103 Ingenuity in using nature's resources ______________________ Lack ingenuity in using nature's resources

or, this characteristic is not a part of my picture of myself ___

104 Open with others ______________________ Closed with others

or, this characteristic is not a part of my picture of myself ___

105 Make interpersonal contact ______________________________ Avoid interpersonal contact

or, this characteristic is not a part of my picture of myself ___

106 Horseman ______________________________ Can't control horses

or, this characteristic is not a part of my picture of myself ___

107 Enjoy beauty ______________________________ Not moved by beauty

or, this characteristic is not a part of my picture of myself ___

108 Skier ______________________________ Non-skier

or, this characteristic is not a part of my picture of myself ___

109 Terrified of wild animals ______________________________ Respect wild animals

or, this characteristic is not a part of my picture of myself ___

110 At one with the earth ______________________________ Don't feel a part of the earth

or, this characteristic is not a part of my picture of myself ___

APPENDIX D

TEST USED TO ESTABLISH RELIABILITY RATINGS OF ATTRIBUTES

GIBSON SELF-CONCEPT - ENVIRONMENTAL

INVENTORY

No. __________ Name ______________________________ Date ______________

(Surname) (Christian Name)

Age on last Birth. ______ Sex M 1 F 2 Telephone No. ______________

In the following categories check only the three most influential factors:

Outdoor Ex: Farming (1) Fishing (2) Oil (3) Parks (4) Logging (5) Forestry (6) Survey (7) Travel (8) Other (9)

Camping Ex: Scouting (1) Church camps (2) YMCA (3) Outward Bound (4) Private (5) Jr. Forestry (6) Youth Hostel (7) Family camping (8) Other (9)

What is your purpose in taking P.E. 389? Teach Out-Ed (1) Know more about Out-Ed (2) Camp leader (3) Thought it would be interesting (4) Interested in this type of Ed (5) Want to improve my camping skills (6) Other (7)

As a person interacts with nature in a variety of roles and experiences, one develops a picture of himself in this element. This questionnaire is an attempt to find out how people picture themselves in their relation to the environment. This is not a test. There are no right or wrong answers. The important thing is that you answer the questions the way you really feel . . . the way YOU SEE YOURSELF.

The final value of the information which you give will depend upon your frankness and the care with which you answer the questions. Only you can tell us how you really see yourself as a part of this setting. This can be a very rewarding learning experience for you in the development of self insight.

The responses you make to the following questions will be completely confidential. Their use will be to give some indication as to where people see themselves in the natural environment and how they develop in this setting. Thus we hope it will help us in shaping courses in Outdoor Education which are meaningful for the future.

A person desiring to be more effective in the outdoors soon develops a mental picture of the ideal outdoorsman. This ideal picture is composed of a great many characteristics that are necessary for interrelating to people and the natural environment. Since most people realize their ideal is usually beyond their immediate reach, they set aspiration levels for themselves in relation to their ideal. In this inventory we would like you to locate your aspiration level toward which you are realistically striving. In addition, we would like you to find where you presently picture yourself in relation to your aspiration level. The scale runs continuously from one labelled extreme to the other with varying degrees being indicated by the spaces.

Your responses are marked on the score cards in two categories indicated by an O for aspired, and an X for present self. If you find some characteristic which is not part of your present picture of yourself indicate by marking in the space opposite the X category to the right of the dotted line (under No).

(Inventory)

1. Awareness of nature ________________________ Unaware of nature

(Score Card)

No

Aspired Self O = = = = = = = = = = =
1 (
Present Self X = = = = = = = = = = =

13.1 Aggressing nature ________________ Cooperating with nature

or, this characteristic is not a part of my picture of myself ___

19.2 Have poor self-discipline ________________ Have self-discipline

or, this characteristic is not a part of my picture of myself ___

33.3 Don't feel at home with nature ________________ Feel at home with nature

or, this characteristic is not a part of my picture of myself ___

47.4 Not sensitive toward nature ________________ Sensitive toward nature

or, this characteristic is not a part of my picture of myself ___

65.5 White water canoeist ________________ Can't control a canoe

or, this characteristic is not a part of my picture of myself ___

01.6 Awareness of nature ________________ Unaware of nature

or, this characteristic is not a part of my picture of myself ___

63.7 Capable orienteer in the wilderness ________________ Inept orienteer in the wilderness

or, this characteristic is not a part of my picture of myself ___

67.8 Survival expert ________________ Non-survival expert

or, this characteristic is not a part of my picture of myself ___

49.9 Unconcerned about ecology ________________ Ecological defender

or, this characteristic is not a part of my picture of myself ___

71.10 Limited knowledge about nature ________________ Wide knowledge about nature

or, this characteristic is not a part of my picture of myself ___

75.11 Capable with map & compass ______________________________ Inept with map and compass

or, this characteristic is not a part of my picture of myself ___

101.12 Outdoor Cook ______________________________ No cook

or, this characteristic is not a part of my picture of myself ___

83.13 Dislike exploring ______________________________ Wilderness explorer

or, this characteristic is not a part of my picture of myself ___

07.14 Follower in the outdoors ______________________________ Leader in the outdoors

or, this characteristic is not a part of my picture of myself ___

173.15 Timid ______________________________ Bold

or, this characteristic is not a part of my picture of myself ___

111.16 Have a good sense of humor ______________________________ Lack a sense of humor

or, this characteristic is not a part of my picture of myself ___

127.17 Have insight into danger ______________________________ Do not have insight

or, this characteristic is not a part of my picture of myself ___

69.18 No mountain experience ______________________________ Mountain tripper

or, this characteristic is not a part of my picture of myself ___

151.19 Skillful with others in the group ______________________________ Awkward with others

or, this characteristic is not a part of my picture of myself ___

145.20 Don't know the stars ______________________________ Astronomer

or, this characteristic is not a part of my picture of myself ___

05.21 Competent outdoorsman ________________________________ Inept outdoorsman

or, this characteristic is not a part of my picture of myself ___

155.22 Value myself high ________________________________ Value myself low

or, this characteristic is not a part of my picture of myself ___

85.23 Can't take physical pain ________________________________ Can endure physical pain

or, this characteristic is not a part of my picture of myself ___

97.24 Erratic ________________________________ Steady

or, this characteristic is not a part of my picture of myself ___

159.25 Competent with others ________________________________ Incompetent with others

or, this characteristic is not a part of my picture of myself ___

191.26 Well prepared ________________________________ Unprepared

or, this characteristic is not a part of my picture of myself ___

109.27 Terrified of being alone ________________________________ Unafraid of being alone

or, this characteristic is not a part of my picture of myself ___

117.28 Impatient ________________________________ Patient

or, this characteristic is not a part of my picture of myself ___

03.29 Skillful in the outdoors ________________________________ Not skillful in the outdoors

or, this characteristic is not a part of my picture of myself ___

181.30 Unfair ________________________________ Fair

or, this characteristic is not a part of my picture of myself ___

179.31 Tense ______________________ Relaxed

or, this characteristic is not a part of my picture of myself ___

09.32 Not alert in the wilderness ______________________ Ever alert in the wilderness

or, this characteristic is not a part of my picture of myself ___

57.33 Attentive to nature's signs ______________________ Inattentive to nature's signs

or, this characteristic is not a part of my picture of myself ___

171.34 Lack insight about myself ______________________ Insight about myself

or, this characteristic is not a part of my picture of myself ___

193.35 Imaginative in problem solving ______________________ Unimaginative

or, this characteristic is not a part of my picture of myself ___

195.36 Observant in nature ______________________ Unobservant in nature

or, this characteristic is not a part of my picture of myself ___

123.37 Poor Physical endurance ______________________ Good physical endurance

or, this characteristic is not a part of my picture of myself ___

129.38 Do not read animal signs ______________________ Read animal signs

or, this characteristic is not a part of my picture of myself ___

177.39 Hostile to others ______________________ Affectionate to others

or, this characteristic is not a part of my picture of myself ___

205.40 Ingenuity in using nature's resources ______________________ Lack of ingenuity in using nature's resources

or, this characteristic is not a part of my picture of myself ___

81.41 Inefficient ______________________________ Efficient worker

or, this characteristic is not a
part of my picture of myself ___

17.42 Perseverance ______________________________ Give up easily

or, this characteristic is not a
part of my picture of myself ___

207.43 Open with others ______________________________ Closed with others

or, this characteristic is not a
part of my picture of myself ___

41.44 Lack confidence ______________________________ Self-confident

or, this characteristic is not a
part of my picture of myself ___

APPENDIX E

TEST-RETEST RELIABILITY - FIRST YEAR PSYCHOLOGY STUDENTS - (N 80)

TEST-RETEST RELIABILITY - FIRST YEAR PSYCHOLOGY STUDENTS - (N 80)

	Mean	S.D.	Mean Diff.	S.D. Diff.	Corr.	1 Tail Test Sig.	T-Value	2 Tail Test Sig.
1. **Aware of Nature**								
Ideal T_1	9.48	1.45	.08	1.81	.120	.117	.44	.662
Ideal T_2	9.40	1.26						
Real T_1	7.12	1.59	.29	1.64	.506	.000	1.76	.080
Real T_2	6.83	1.69						
Discrepancy Difference			.21	1.92	.458	.000	1.09	.278
2. **Self-Confident**								
Ideal T_1	9.09	1.69	.11	1.94	.425	.000	.56	.574
Ideal T_2	8.99	1.91						
Real T_1	6.62	1.84	-.19	1.33	.698	.000	-1.42	.158
Real T_2	6.81	1.50						
Discrepancy Difference			.29	1.84	.640	.000	1.62	.108
3. **Capable Orienteer**								
Ideal T_1	9.19	1.77	-.05	1.61	.507	.000	-.31	.756
Ideal T_2	9.24	1.43						
Real T_1	4.40	2.34	-.73	1.85	.670	.000	-3.91	.000
Real T_2	5.13	2.18						
Discrepancy Difference			.68	2.35	.672	.000	2.85	.010

	Mean	S.D.	Mean Diff.	S.D. Diff.	Corr.	1 Tail Test Sig.	T-Value	2 Tail Test Sig.
4. **Sensitive Toward Nature**								
Ideal T_1	9.15	1.27	-.08	1.34	.304	.002	-.67	.506
Ideal T_2	9.24	.97						
Real T_1	7.04	1.63	-.21	1.36	.620	.000	-1.55	.125
Real T_2	7.25	1.47						
Discrepancy Difference			.13	1.75	.358	.000	.75	.458
5. **Skillful in Outdoors**								
Ideal T_1	8.99	2.10	-.21	1.62	.670	.000	-1.30	.196
Ideal T_2	9.20	1.84						
Real T_1	5.55	2.06	-.46	1.59	.690	.000	-2.89	.004 *
Real T_2	6.01	1.98						
Discrepancy Difference			.25	2.28	.642	.000	1.10	.276
6. **Ecological Defender**								
Ideal T_1	8.93	2.02	-.16	1.80	.507	.000	-.89	.378
Ideal T_2	9.09	1.47						
Real T_1	7.08	1.72	-.10	1.69	.515	.000	-.59	.557
Real T_2	7.18	1.71						
Discrepancy Difference			.06	1.97	.488	.000	.30	.762
7. **Fair**								
Ideal T_1	8.76	2.15	-.22	1.92	.524	.000	-1.11	.270
Ideal T_2	8.97	1.70						
Real T_1	7.17	1.67	-.13	1.41	.596	.000	-.93	.357
Real T_2	7.30	1.46						
Discrepancy Difference			.09	1.73	.581	.000	.53	.598

	Mean	S.D.	Mean Diff.	S.D. Diff.	Corr.	1 Tail Test Sig.	T-Value	2 Tail Test Sig.	
8. White Water Canoeist									
Ideal T_1	7.12	2.69	-.64	2.72	.390	.000	-2.29	.002	*
Ideal T_2	7.75	2.18							
Real T_1	4.14	2.61	.18	2.46	.522	.000	.68	.248	
Real T_2	3.96	2.40							
Discrepancy Difference			.78	3.88	.473	.000	1.92	.058	
9. Wide Knowledge about Nature									
Ideal T_1	9.20	1.63	,04	1.49	.579	.000	.27	.790	
Ideal T_2	9.16	1.62							
Real T_1	5.68	2.18	-.44	1.78	.635	.000	-2.46	.016	*
Real T_2	6.11	1.96							
Discrepancy Difference			.48	2.27	.532	.000	2.10	.038	*
10. Survival Expert									
Ideal T_1	8.99	2.00	-.16	1.68	.607	.000	-.95	.347	
Ideal T_2	9.15	1.76							
Real T_1	4.18	2.21	-1.08	1.61	.722	.000	-6.72	.000	*
Real T_2	5.26	2.08							
Discrepancy Difference			.92	2.15	.712	.000	3.17	.000	*
11. Competent Outdoorsman									
Ideal T_1	9.23	1.57	-.01	1.64	.476	.000	-.06	.475	
Ideal T_2	9.24	1.63							
Real T_1	5.31	2.13	-.35	1.37	.759	.000	-.239	.009	*
Real T_2	5.66	2.12							
Discrepancy Difference			.34	2.05	.702	.000	1.66	.100	

	Mean	S.D.	Mean Diff.	S.D. Diff.	Corr.	1 Tail Test Sig.	T-Value	2 Tail Test Sig.
12. **Outdoor Cook**								
Ideal T_1	8.65	2.14	-.12	1.56	.697	.000	-.77	.445
Ideal T_2	8.77	1.75						
Real T_1	6.23	2.51	-.17	1.64	.777	.000	-1.03	.306
Real T_2	6.40	2.51						
Discrepancy Difference			.05	1.88	.757	.000	0.26	.792
13. **Have Insight About Self**								
Ideal T_1	9.32	1.71	-.05	2.03	.064	.000	-.25	.807
Ideal T_2	9.37	1.21						
Real T_1	6.59	1.88	.05	1.63	.612	.000	.31	.760
Real T_2	6.54	1.81						
Discrepancy Difference			.06	2.16	.516	.000	.28	.78
14. **Good Sense of Humour**								
Ideal T_1	8.07	2.62	-.48	2.61	.367	.000	-1.84	.034
Ideal T_2	8.55	1.89						
Real T_1	7.01	1.97	-.09	1.71	.574	.000	-.53	.294
Real T_2	7.10	1.69						
Discrepancy Difference			.39	2.45	.320	.000	1.60	.114
15. **Insight into Danger**								
Ideal T_1	9.32	1.71	-.05	2.03	.064	.260	-.25	.403
Ideal T_2	9.37	1.21						
Real T_1	6.59	1.88	.05	1.63	.612	.000	.31	.380
Real T_2	6.54	1.81						
Discrepancy Difference			.10	2.41	.351	.000	.41	.681

	Mean	S.D.	Mean Diff.	S.D. Diff.	Corr.	1 Tail Test Sig.	T-Value	2 Tail Test Sig.
16. Relaxed								
Ideal T_1	9.05	1.45	.09	1.48	.564	.000	.61	.546
Ideal T_2	8.96	1.69						
Real T_1	6.53	1.83	-.04	1.59	.556	.000	-.25	.803
Real T_2	6.57	1.50						
Discrepancy Difference			.13	1.94	.530	.000	.67	.507
17. Patient								
Ideal T_1	9.16	1.77	-.01	.70	.922	.000	-.13	.887
Ideal T_2	9.17	1.76						
Real T_1	6.50	1.96	-.26	1.59	.617	.000	-1.63	.107
Real T_2	6.76	1.61						
Discrepancy Difference			.25	1.51	.760	.000	1.64	.103
18. Affectionate With Others								
Ideal T_1	8.55	1.85	-.09	1.53	.643	.000	-.59	.556
Ideal T_2	8.64	1.76						
Real T_1	7.30	1.51	.06	1.32	.642	.000	.45	.652
Real T_2	7.24	1.60						
Discrepancy Difference			.15	1.83	.510	.000	.82	.414
19. Good Physical Edurance								
Ideal T_1	9.39	1.54	-.14	1.27	.576	.000	-1.10	.273
Ideal T_2	9.52	.99						
Real T_1	6.05	2.26	-.06	1.34	.817	.000	-.45	.657
Real T_2	6.11	2.26						
Discrepancy Difference			.08	1.74	.767	.46	.648	

	Mean	S.D.	Mean Diff.	S.D. Diff.	Corr.	1 Tail Test Sig.	T-Value	2 Tail Test Sig.
20. Skill With Others								
Ideal T_1	8.83	1.98	-.30	1.77	.485	.000	-1.70	.093
Ideal T_2	9.13	1.33						
Real T_1	6.40	1.80	-.23	1.66	.540	.000	-1.39	.168
Real T_2	6.63	1.64						
Discrepancy Difference			.07	1.75	.597	.000	.50	.690
21. Value Myself High								
Ideal T_1	8.14	2.04	-.41	2.02	.403	.000	-1.96	.027
Ideal T_2	8.55	1.55						
Real T_1	6.46	2.01	.08	1.73	.598	.000	.45	.320
Real T_2	6.38	1.84						
Discrepancy Difference			.48	2.15	.441	.000	2.22	.029 *
22. Open With Others								
Ideal T_1	8.51	1.87	-.31	2.07	.285	.002	-1.50	.069
Ideal T_2	8.82	1.57						
Real T_1	6.44	2.07	-.23	1.98	.509	.000	-1.16	.124
Real T_2	6.67	1.92						
Discrepancy Difference			.08	2.37	.259	.000	.34	.737

Those figures indicated with an asterisk (*) show that the value is not up to desired strength in one or more areas.

APPENDIX F

FINAL OUTDOOR-INVENTORY GIVEN TO CASE STUDIES

SELF-CONCEPT - ENVIRONMENTAL

INVENTORY

No. ______ Name ______________________________ Date ______________

(Surname) (Christian Name)

Age on last Birth. ______ Sex $\frac{M}{1}$ $\frac{F}{2}$ Telephone No. ____________________

In the following categories check only the three most influential factors:

Outdoor Ex: Farming (1) Fishing (2) Oil (3) Parks (4)
Logging (5) Forestry (6) Survey (7) Travel (8) Other (9)

Camping Ex: Scouting (1) Church Camps (2) YMCA (3) Outward Bound (4)
Private (5) Jr. Forestry (6) Youth Hostel (7)
Family Camping (8) Other (9)

What is your purpose in taking P.E. 389?
Teach Out-Ed (1) Know more about Out-Ed (2) Camp Leader (3)
Thought it would be interesting (4) Interested in this type of Ed (5) Want to improve my camping skills (6) Other (7)

Part I

As a person interacts with nature in a variety of roles and experiences, one develops a picture of himself in this element. This questionnaire is an attempt to find out how people picture themselves in their relation to the environment. This is not a test. There are no right or wrong answers. The important thing is that you answer the questions the way you really feel . . . the way YOU SEE YOURSELF.

The final value of the information which you give will depend upon your frankness and the care with which you answer the questions. Only you can tell us how you really see yourself as a part of this setting. This can be a very rewarding learning experience for you in the development of self-insight.

The responses you make to the following questions will be completely confidential. Their use will be to give some indication as to where people see themselves in the natural environment and how they develop in this setting. Thus we hope it will help us in shaping courses in Outdoor Education which are meaningful for the future.

A person desiring to be more effective in the outdoors soon develops a mental picture of the ideal outdoorsman. This ideal picture is composed of a great many characteristics that are necessary for inter-relating with people and the natural environment. Since most people realize their ideal is usually beyond their immediate reach, they set aspiration levels for themselves in relation to their ideal. In this inventory we would like you to locate your aspiration level toward which you are realistically striving. In addition, we would like you to find where you presently picture yourself in relation to your aspiration level. The scale runs from one labelled extreme to the other with varying degrees being indicated by the spaces.

Your responses are marked on the score cards in two categories indicated by an O for aspired, and an X for present self. If you find some characteristic which is not part of your present picture of yourself indicate by marking in the space opposite the X category to the right of the dotted line (under No).

Examples

(Inventory)
1. Outdoorsman ________________________________ Non-outdoorsman

(Score Card) No
Aspired Self O = = = = = = = = = = =
1 (
Present Self X — — — — — — — — — — —

2. Don't feel at home with nature ________________________________ Feel at home with nature

O — — — — — — — — — — —
2 (
X = = = = = = = = = = =

6.1 Aware of nature ______________________ Unaware of nature

or, this characteristic is not a part of my picture of myself ___

44.2 Lack confidence ______________________ Self-confident

or, this characteristic is not a part of my picture of myself ___

7.3 Capable orienteer in the wilderness ______________________ Inept orienteer in the wilderness

or, this characteristic is not a part of my picture of myself ___

4.4 Not sensitive toward nature ______________________ Sensitive toward nature

or, this characteristic is not a part of my picture of myself ___

29.5 Skillful in the outdoors ______________________ Not skillful in the outdoors

or, this characteristic is not a part of my picture of myself ___

9.6 Unconcerned about ecology ______________________ Ecological defender

or, this characteristic is not a part of my picture of myself ___

30.7 Unfair ______________________ Fair

or, this characteristic is not a part of my picture of myself ___

5.8 White water canoeist ______________________ Can't control a canoe

or, this characteristic is not a part of my picture of myself

10.9 Limited knowledge about nature ______________________ Wide knowledge about nature

or, this characteristic is not a part of my picture of myself ___

8.10 Survival expert ____________________ Non-survival expert

or, this characteristic is not a part of my picture of myself ___

21.11 Competent outdoorsman ____________________ Inept outdoorsman

or, this characteristic is not a part of my picture of myself ___

12.12 Outdoor cook ____________________ No cook

or, this characteristic is not a part of my picture of myself ___

34.13 Lack insight about myself ____________________ Have insight about myself

or, this characteristic is not a part of my picture of myself ___

16.14 Have a good sense of humor ____________________ Lack a sense of humor

or, this characteristic is not a part of my picture of myself ___

17.15 Have insight into danger ____________________ Do not have insight

or, this characteristic is not a part of my picture of myself ___

31.16 Tense ____________________ Relaxed

or, this characteristic is not a part of my picture of myself ___

28.17 Impatient ____________________ Patient

or, this characteristic is not a part of my picture of myself ___

39.18 Hostile to others ____________________ Affectionate to others

or, this characteristic is not a part of my picture of myself ___

37.19 Poor physical endurance ____________________ Good physical endurance

or, this characteristic is not a part of my picture of myself ___

19.20 Skillful with others in the group	______________________ or, this characteristic is not a part of my picture of myself ___	Awkward with others
22.21 Value myself high	______________________ or, this characteristic is not a part of my picture of myself ___	Value myself low
43.22 Open with others	______________________ or, this characteristic is not a part of my picture of myself ___	Closed with others

Part II

Below you will find 3 unlabelled scales which you are to use in further description of your present picture of yourself and your realistic aspirations for yourself.

Please indicate three characteristics which are important to your total picture of yourself and which are not included in those previously mentioned.

You are to do this by labelling both ends of the scale (as was done for you previously) and then mark your response for your aspired self (O) and your present picture of yourself (X) on the score sheet opposite 23, 24, 25.

23. ______________________

24. ______________________

25. ______________________

Part III

The next part of the questionnaire is concerned with how you evaluate your present picture of yourself.

Listed on the next page are the same 22 characteristics which appeared earlier in this questionnaire. They are listed in special order. At the end of this list there are 3 blank spaces in which you are to fill in the 3 characteristics which you used to label the blank scales for 23, 24, 25.

After you have filled in your own descriptions of yourself in the blank spaces provided, please carefully consider how important each of these 25 characteristics is to how you evaluate your present picture of yourself.

The criterion you are to use in determining the importance of each characteristic in evaluating yourself is:

> If I were to suddenly see myself as being closer to the end of the scale which is less desirable to me - - how much would this one characteristic lower my total evaluation of myself.

In the spaces provided on the next page, indicate the relative importance of each characteristic to your evaluation of yourself.

1. Aware of nature	- Unaware of nature
2. Self-confident	- Lack confidence
3. Capable orienteer in the wilderness	- Inept orienteer in the wilderness
4. Sensitive toward nature	- Not sensitive toward nature
5. Skillful in the outdoors	- Not skillful in the outdoors
6. Ecological defender	- Unconcerned about ecology
7. Fair	- Unfair
8. White water canoeist	- Can't control a canoe
9. Wide knowledge about nature	- Limited knowledge about nature
10. Survival expert	- Non-survival expert
11. Competent outdoorsman	- Inept outdoorsman
12. Outdoor cook	- No cook
13. Have insight about myself	- Lack insight about myself
14. Have good sense of humor	- Lack sense of humor
15. Have insight into danger	- Do not have insight
16. Relaxed	- Tense
17. Patient	- Impatient
18. Affectionate to others	- Hostile to others
19. Good physical endurance	- Poor physical endurance
20. Skillful with others in the group	- Awkward with others
21. Value myself high	- Value myself low
22. Open with others	- Closed with others

(Insert your own three characteristics of yourself here)

23. ____

24. ____

25. ____

Look at each of the items and evaluate them as to their importance to your total evaluation of your present picture of yourself. Each characteristic is to be rated from 1 to 10 on your second computor score card. Not more than 6 items can be given any one score (e.g. not more than 6 items can be considered to be "8 - Quite important"). Be sure all 25 items are rated on your score card.

IMPORTANCE FOR TOTAL SELF EVALUATION

10 - Extremely important to my total self evaluation
9 - Very important to my total self evaluation
8 - Quite important to my total self evaluation
7 - Moderately important to my total self evaluation
6 - Somewhat important to my total self evaluation
5 - Somewhat unimportant to my total self evaluation
4 - Moderately unimportant to my total self evaluation
3 - Quite unimportant to my total self evaluation
2 - Very unimportant to my total self evaluation
1 - Extremely unimportant to my total self evaluation

Finally, on this scale you are to rate your overall level of self-evaluation or self-esteem, that is, how high or low you presently evaluate your total picture of yourself. Place your response on the computor score sheet opposite No. 26.

Low ________________________________ High

Part IV

You have just completed the section on how important each one of the 25 characteristics is to your personal evaluation. In this section of the inventory we want you to follow the same procedure, only rate the characteristics in accordance with how you see your camp group evaluating you. "How important are each of these characteristics to my camp group's evaluation of me?"

Remember: The criterion you are to follow in determining the importance of each characteristic to your camp group is:

> "If my camp group were suddenly to see me as being close to the end of the scale which is less desirable . . . how much would this one characteristic lower their total evaluation of me?"

1. Aware of nature - Unaware of nature
2. Self-confident - Lack confidence
3. Capable orienteer in the wilderness - Inept orienteer in the wilderness
4. Sensitive toward nature - Not sensitive toward nature
5. Skillful in the outdoors - Not skillful in the outdoors
6. Ecological defender - Unconcerned about ecology
7. Fair - Unfair
8. White water canoeist - Can't control a canoe
9. Wide knowledge about nature - Limited knowledge about nature
10. Survival expert - Non-survival expert
11. Competent outdoorsman - Inept outdoorsman
12. Outdoor cook - No cook
13. Have insight about myself - Lack insight about myself
14. Have good sense of humor - Lack sense of humor
15. Have insight into danger - Do not have insight
16. Relaxed - Tense
17. Patient - Impatient
18. Affectionate to others - Hostile to others
19. Good physical endurance - Poor physical endurance
20. Skillful with others in the group - Awkward with others
21. Value myself high - Value myself low
22. Open with others - Closed with others

(Insert your own three characteristics of how your camp group pictures you)

23. ____

24. ____

25. ____

The scoring is done on the second computor score sheet starting under Part IV at No. 1. You may only have 6 items rated in any one category (e.g. not more than 6 items can be considered to be "8 - Quite important"). Be sure to score all 25 items.

IMPORTANCE FOR MY CAMP GROUP'S TOTAL EVALUATION OF ME

10. Extremely important
9. Very important
8. Quite important
7. Moderately important
6. Somewhat important
5. Somewhat unimportant
4. Moderately unimportant
3. Quite unimportant
2. Very unimportant
1. Extremely unimportant

On this scale you are to rate the overall level of your camp group's evaluation of you. That is, how high or low do you think your camp group presently evaluates you as a total person. (Place your response opposite No. 76 on the computor score card.)

Low ________________________________ High

Part V

It is important to this research for us to determine the friendship structure of your camp group.

On the lines below please rank all members of your camp group in terms of how much you like each one. The criterion which you are to use in your ranking is the order with which you would choose the different members as friends. Begin with your first choice and rank all members of your camp group using both first and last names (omit yourself but include your group leader). You will find a list of all members of your group in the camp group roster, each with a number beside their name.

1. ______________________________ 8. ______________________________
2. ______________________________ 9. ______________________________
3. ______________________________ 10. ______________________________
4. ______________________________ 11. ______________________________
5. ______________________________ 12. ______________________________
6. ______________________________ 13. ______________________________
7. ______________________________ 14. ______________________________

After you have completed the list in the inventory, transfer your choice by using their camp roster number to the computor sheet, Part V.

(e.g. 1. Jerry Green (6) *
2. Mary Jones (10)*

You would place the (6) opposite No. 1 on your computor score sheet and (10) opposite No. 2, etc.)

Part VI

The last section of the inventory is an attempt to find out how people perceive other persons in their camping group. Again we point out that there are no right and wrong answers. The important thing is that you try to answer the questions the way you really feel . . . the way you perceive the other members of your camp group.

We hope that this part of the inventory will be of value to you in making a more precise evaluation of human characteristics. We, in turn, need your insight in completing the inventory to obtain an adequate assessment of people's response to course objectives and programming. Again, we would like to reassure you that all information will be kept confidential by the research staff. Answer the questions as if you were giving the answers to yourself . . . "this is the way I picture my camp group members".

Please do not be concerned if you feel that your camp group members are seen by you to be different in different situations (e.g. tense - relaxed). Indicate how you picture them in general or most usually.

We are not interested in how other people would like to be perceived. We are not interested in how you think they see themselves

- Only how you see each member of your camp group.

On the next page you will find spaces for your camp group's names, plus that of your group leader. Fill in the spaces. Then use the computor score sheets labelled Part VI to score the responses. On each page of the inventory there are printed 4 characteristics numbered alphabetically.

Evaluate each person in your group on each of the characteristics. The procedure is to place the edge of the score sheet next to the names of your camp group and score for each item. When you finish from A - D turn the page and proceed in the same fashion using the second column of your score sheet.

HARK'S ON COPY

Part VI a

CHARACTERISTICS

A. AWARE OF NATURE - UNAWARE OF NATURE

B. SELF-CONFIDENT - LACK CONFIDENCE

C. CAPABLE ORIENTEER IN THE WILDERNESS - INEPT ORIENTEER IN THE WILDERNESS

D. SENSITIVE TOWARD NATURE - NOT SENSITIVE TOWARD NATURE

Names of camp
group members

1 ____________ 1
2 ____________ 2
3 ____________ 3
4 ____________ 4
5 ____________ 5
6 ____________ 6
7 ____________ 7
8 ____________ 8
9 ____________ 9
10 ____________ 10

Part VI a

CHARACTERISTICS

E. SKILLFUL IN THE OUTDOORS - NOT SKILLFUL IN THE OUTDOORS

F. ECOLOGICAL DEFENDER - UNCONCERNED ABOUT ECOLOGY

G. FAIR - UNFAIR

H. WHITE WATER CANOEIST - CAN'T CONTROL A CANOE

Names of camp group members

1 ______________ 1
2 ______________ 2
3 ______________ 3
4 ______________ 4
5 ______________ 5
6 ______________ 6
7 ______________ 7
8 ______________ 8
9 ______________ 9
10 ______________ 10

Part VI b

CHARACTERISTICS

A. WIDE KNOWLEDGE ABOUT NATURE - LIMITED KNOWLEDGE ABOUT NATURE

B. SURVIVAL EXPERT - NON-SURVIVAL EXPERT

C. COMPETENT OUTDOORSMAN - INEPT OUTDOORSMAN

D. OUTDOOR COOK - NO COOK

Names of camp
group members

1 ____________________ 1
2 ____________________ 2
3 ____________________ 3
4 ____________________ 4
5 ____________________ 5
6 ____________________ 6
7 ____________________ 7
8 ____________________ 8
9 ____________________ 9
10 ____________________ 10

Part VI b

CHARACTERISTICS

E. HAS INSIGHT ABOUT HIMSELF - LACKS INSIGHT ABOUT HIMSELF

F. HAS A GOOD SENSE OF HUMOR - LACKS A SENSE OF HUMOR

G. HAS INSIGHT INTO DANGER - DOES NOT HAVE INSIGHT

H. RELAXED - TENSE

Names of camp group members

1 ____________________ 1
2 ____________________ 2
3 ____________________ 3
4 ____________________ 4
5 ____________________ 5
6 ____________________ 6
7 ____________________ 7
8 ____________________ 8
9 ____________________ 9
10 ____________________ 10

Part VI c **CHARACTERISTICS**

A. PATIENT - IMPATIENT

B. AFFECTIONATE TO OTHERS - HOSTILE TO OTHERS

C. GOOD PHYSICAL ENDURANCE - POOR PHYSICAL ENDURANCE

D. SKILLFUL WITH OTHERS IN THE GROUP - AWKWARD WITH OTHERS

Names of camp group members

1 ______________________ 1
2 ______________________ 2
3 ______________________ 3
4 ______________________ 4
5 ______________________ 5
6 ______________________ 6
7 ______________________ 7
8 ______________________ 8
9 ______________________ 9
10 ______________________ 10

Part VI c

CHARACTERISTICS

E. VALUES HIMSELF HIGH - VALUES HIMSELF LOW

F. OPEN WITH OTHERS - CLOSED WITH OTHERS

(Use the first two personal characteristics you have been using and omit the third.)

G. ______________________________

H. ______________________________

Names of camp
group members

1 ______________ 1
2 ______________ 2
3 ______________ 3
4 ______________ 4
5 ______________ 5
6 ______________ 6
7 ______________ 7
8 ______________ 8
9 ______________ 9
10 ______________ 10

APPENDIX G

OUTLINE FOR ORGANIZING INFORMATION IN DIARY

PERSONAL LOG

The personal log of the trip, we hope, will be of real worth in helping you become more aware of interactions taking place involving the environment, program elements, the group and you. At the end of the course you will be asked to meet with the course instructor to discuss the experiences based on your log. Your log should be kept every day and treated as your own private diary concerning the experience. This means that you must all treat your own log and that of others as private property and not to be shared.

The format we would like you to follow is to buy a hard covered survey book measuring about 4" by 6". Each day you will fill out two pages for the day. The one on the left should involve the environment, program elements and the group; the one on the right your own response and feelings. A sample of structure is as follows:

Date: June 3/1973 - 10:00 p.m.

Environment - Cold/foggy 32°- 60°
1. Started with rain, ended sunshine.
2. Steep mountainous country on the south eastern slope of Brazeau Range.

Curriculum Elements
1. How to pack - Jim, Brian
2. Map and compass work - Ron
3. Plants edible - Janet

Group Coping
a. External - Our group was the first on the trail this morning. Everyone did their job, even Joe for the first time today.
b. Internal - We are still having problems learning to arrive at a consensus for action. Everyone thinks theirs is the only way to do things.

Self
1. External - Made my first fire today without paper. Even started fire in the rain with flint and steel.
2. Internal - Felt better today, my blisters are beginning to heal. Had a great feeling of accomplishment over the fire. My group felt good I could do it and I guess that makes me feel good.
   - The sunset was unbelievably beautiful tonight--think I am beginning to understand this one-with-nature bit.
   - Felt like hitting Jim over the head with the frying pan when he accidentally kicked dirt on the eggs. He just doesn't pay attention to where he puts his big feet.

Since this type of assignment is a personal thing, we are going to judge it on a Pass or Fail basis. If you systematically do the work and complete the log in a genuine manner you will receive an automatic 15%; if not, an F for this part of the course.

APPENDIX H

A SELF DESCRIPTIVE SHEET DEFINING ONE'S STRENGTHS AND WEAKNESSES IN THE OUTDOORS

INFORMATION FROM THE STUDENT

1. Outline your experience in the out-of-doors (camps, outdoor groups, trips, etc,).

2. Outline your areas of strength and those in which you lack confidence.

Strengths	Areas of Unconfidence

OUTDOOR LEADERSHIP EDUCATION 1974

CAMROSE LUTHERAN COLLEGE

Evaluation Form

NAME ______________________________

Address (present) ____________________ Telephone ____________

Address (permanent) ____________________ Telephone ____________

____

Bases for Evaluation	Course Weightings	
	%	P.E. Mark
1. Individual skill leadership involving group teaching and written paper (copy for each group member)	20	____
2. Personal log of the trips	15	____
3. Library resource project (5 books)	10	____
4. Qualities of leadership, independence	25	____
5. Final examination	30	____
Final Percent		____
Stanine		____